

LEGACY OF LESSONS

A 40-Year Retrospective
Hugh Lovel

Recently, I found myself greeted as an elder, a survivor of an era of transition in agriculture when many of the old hands and articulate voices are falling by the wayside. Over the past forty years, things have truly changed in eco-farming. When I embraced the land, my goal was growing food of the highest quality. Family and friends were perplexed. “Are you sure? With your education and background you’re going to...farm? How come? Can’t you just go to the store?”

The food in the stores set the lowest common denominators of quality—tomatoes reminiscent of cardboard and potatoes that rusted when peeled. My Experiment Station scientists claimed they had no way to measure quality, but every chef I knew used taste and smell.

Dad taught us kids to question accepted beliefs. He claimed things are seldom what they seem—what people tell you is true usually isn’t. We grew up playing cards, and Dad read people’s cards from their faces and postures. Education, Dad said, was rarely free.

Fresh from high school, I majored in business and economics at Southeastern Louisiana University. We were taught that agriculture was only 3% of the GDP (Gross Domestic Product). It might as well be ignored. When I changed majors to sociology, the first page of our textbook said modern culture was agrarian in its basis.

While business pundits considered farming irrelevant, social scientists held it was central. Where was the truth? Clearly, no wheel turned, no boardroom met, no book was published, no patent applied for without food first and last.

I was concerned that the character of our food supply was pale to thin. In my childhood, I ate home-grown tomato sandwiches over the sink—thick, juicy, red slabs sprinkled with salt between whole wheat slices slathered with mayonnaise. Years and years afterward, I yearned for how good that felt. Great food was the rare exception, and I wanted to grow such food and tell everyone how. I felt certain that food excellence would empower and beautify everyone. Quantity had to take second place to goodness.

Surprisingly, I’ve met a few people who can’t taste the difference between excellent and ordinary and have no idea what I am talking about. But it’s hard to fool the kids. A customer told me that her little three-year-old loved my green beans and wouldn’t eat any others, but her husband couldn’t taste the difference. He wondered why his wife paid double for my beans—no matter that their toddler couldn’t choke the others down.

When I studied psychology and biofeedback, we helped people sort out their mental confusion and emotional counter-intention, but we didn’t address



(Photo - Frank Uhlig)

their will forces. What could possibly empower people? I figured that will forces had to do with the guts, and food from the supermarket wasn't especially inspiring. At the age of twenty-seven, I set out to inspire myself and others via the gut. I started a whole-grain bread business to cash flow my farming. My miller told me, "You can't grow corn organically. My dad and me tried, but you can't do it."

"Too bad," I said. "It has to be done. There has to be a way." After all, how was it done before the chemical industries got involved?

As I cleaned up my farm block, I began to realize that everything was connected and the weather was affected, among other things. I asked myself: how far could the restoration of nature go? Oh, yeah, reclaiming the Sahara. So I started working on that. As the years pass, I find there are many others who envision much the same goal. No doubt, in a couple hundred years the Sahara will be the new place to which farmers migrate.

Today the old, conventional farmers are dying off, and no one wants to take up their war on nature. Most conventional farm kids flee from what has become the most dangerous and unrewarding of all occupations. Bankers—the de facto owners of most acreage—don't want to know the risks of waging war with nature. They rather like a system that mines its assets, calls this income, and keeps borrowing. That's good banking; forget about good ecology.

I had a lot to learn, and my first lesson was about using too much raw manure. Organics taught that anything that came out of the tail end of an animal was good, and the more the better. This is false. What came out had its vitality removed by the animal, and this had to be restored by composting before it could fertilize new growth. The big issue was nitrogen. Conventional thinking said nitrogen was nitrogen. It didn't matter what form nitrogen was in; plants only took it up as nitrate. So what if you applied it as chicken poop? What if you applied it as anhydrous ammonia, since that was cheapest? It didn't matter. Plants wouldn't take it up until it oxidized to nitrate.

My first mentor, Peter Escher, taught me that plants are healthiest when they get their nitrogen as

amino acids from the soil biology, and that raw manure is a worse poison than ammonium nitrate or urea. Peter told me to compost everything and put soil in my compost. Another mentor, Luc Chaltin, showed me it was best to scatter my compost thinly on the surface and let the soil animal life feed on it. They would re-enter

the soil and excrete the freshly digested amino acids around crop roots in a fine, gentle way—hourly, daily, throughout the crop cycle as nature intended. And cultivation? The first time Peter Escher complimented me was when I mowed off the weeds between my corn rows instead of cultivating. "You should do a lot more of that," he said.



Gradually, I learned

that building soil—the farmer's imperative—requires two things. The first is maximizing biomass production. Bare soil is always a dead loss, and sowing and mowing or sowing and grazing while spreading my fertilizers sparingly on the surface became my best practice. This led to accomplishing my second imperative, which was to maximize digestive activity. The residues from previous rounds of growth protected the soil and fed its animal life, most of which was too microscopic to see with the naked eye. Yet, the soft crumbliness of the soil revealed major benefits. Management-intensive rotational grazing is based on both of these imperatives, and pastures clearly build soil better than any other style of farming—something our metropolitan "green" cousins don't realize yet.

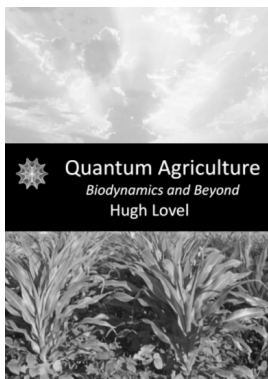
Permaculture emphasizes the edge effect, teaching that the more we develop the edges and boundaries in our landscapes, the more naturally fertile they become. This corresponds completely with the physics of chaos theory, which shows that the only places where nature reverses entropy is at boundaries. Life arises within boundaries; the Mandelbrot Set¹, which defines boundaries, shows us how infinitely complex life can be. Microbes must have their cell walls, trees their bark, and people their skin. Our farms need their hedge rows and shelterbelts, and our fields need healthy headlands, ditches, and access strips.

Some crops, like potatoes, garlic, and tomatoes, seem to grow best with cultivation. I worked out a

method using an Italian spading machine that cut meter-wide beds into a vegetative cover of grasses and pasture legumes. This left meter-wide driving strips and the surrounding headlands untilled. The cultivation aerated the edges of the beds, stimulating the grasses and legumes and the soil food web supporting them. Meanwhile, the centers of the beds were never more than half a meter away from a thriving biological reservoir that fed and re-invigorated the cultivated zone. Mowing the paths generated mulch for my earthworms and green chop for my cows, pigs, and chickens—ultimately to return as compost for my veggie blocks. This turned soil destruction into soil construction.

Reclaiming the Sahara still means learning how to moderate drought, and that deserves further exploration, including a discussion of how biodynamics works. Suffice it to say that, in my last decade of market gardening, I gave away all my irrigation equipment as too expensive and time-consuming. I didn't need it anymore.

"...a set of points in the complex plane that is self-replicating according to some predetermined rule such that the boundary of the set has fractal dimensions, used in the study of fractal geometry and in producing patterns in computer graphics." Accessed February 6, 2017, (<http://www.dictionary.com/browse/mandelbrot-set>).



HUGH LOVEL is a farmer, scientist, and teacher of Quantum Agriculture. Author of *A Biodynamic Farm and Quantum Agriculture*, his articles also appear in ACRES, U.S.A., ACRES Australia, and News Leaf, the Journal of Biodynamic Agriculture Australia (BAA). When in the United States, he and his wife, Shabari Bird, reside in Blairsville, Georgia.

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