

The Case for Local Wheat and Bread in Vermont

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April 18, 1775, Dijon, France: An angry mob gathered outside the shop of a wealthy miller suspected of mixing bean flour with wheat flour to cut costs. The miller was assaulted and his house and mill plundered for flour, then burned to the ground. In the weeks that followed, similar scenes followed at bakeries and mills throughout France. Everywhere, people were angry about the same things: flour was too expensive, often of poor quality, and bread, priced at fourteen sous nationwide, was unaffordable to many. At dawn on the second of May an angry mob arrived at the gates of Versailles, demanding action. Surprised and outnumbered, the commander of the palace guard managed to disperse the crowd with assurances that the king would lower the price of bread.

Louis XVI, however, was of another mind; he followed the counsel of Controller-General of Finance Turgot, who was adamantly against any government interference in the wheat commodity market. Instead, soldiers and police were posted at every wheat market, mill, and bakery to quell the theft and pillaging that were becoming rampant. Those who could not afford bread at fourteen sous would have to do without. The king's men clashed with the hungry and desperate during this ugly, decade-long prologue to the revolution known as the *Guerre des Farines*, or the "Flour Wars." The anger that led to the storming of the Bastille in 1789 was, therefore, a long time in the making. The Bastille itself was of no significance except that it was a symbol of a monarchy unable to ensure a stable food supply. Without bread on the table, there would be no governance.

Historically, predictable supplies of staple crops have been critical to all civilizations. When the crop is in trouble, so, too, is the state. In France, transportation issues and the brutality of the free market combined to precipitate a crisis. It's troubling that our present-day food supply system leaves us vulnerable on these same two counts.

For my bakery in Ferrisburgh, I buy some flour from a local mill that has increased its prices for organic flour from 40 cents to 80 cents per pound in the past six months. The increase is credited to rising fuel costs, the diversion of former wheat lands to subsidized ethanol production, and rising demand for grain in China and India. Prices are expected to continue to rise, and I have noticed that most bakeries nearby have already increased their prices substantially.

True, we still have very, very cheap food in this country, and we're a long way from a full-blown crisis, but I would argue that the time is right to take action, particularly when it comes to wheat and bread. As a lifelong lover of bread and a full-time wheat farmer and baker, the culture of growing wheat and the art of baking with it are both dear to my heart. But in Vermont, small grains—wheat included—are often overlooked. According to University of Vermont agronomist Heather Darby, Vermont plants only 500 to 700 hundred acres per year, of which half goes for animal feeds. Since we consume an average of about 150 pounds of wheat per person annually, this means Vermont is currently growing just eight-tenths of one percent of the wheat it consumes.

When it comes to wheat, we now are at the low point of a trend centuries in the making. Western growers have more favorable growing conditions (at least as long as their aquifers hold out), and cheap transport has made competition with them very difficult. In fact, since the completion of the Erie Canal, Vermont wheat has been losing ground. Yet I believe that we are poised for a real renaissance of the culture of wheat and other small grains in Vermont, and that such a rebirth has

greater promise than liquid coal, biofuels, hydrogen cells, nuclear energy, wind towers, and the many other proposed solutions to peak oil.

Most remedies to declining fossil-fuel availability seem to assume that we will more or less live as we have been living, consume as we've been consuming. Common sense and observation of the world around us should warn us against placing too much faith in such assurances. The bottom line is, in our future, there will simply be less fuel, less travel, less stuff, less energy. Our primary challenge as a culture and as a people will be to unify to create a society capable of functioning under these constraints. I feel that Vermont is among the best places in the nation to undertake this challenge, that the physical makeup of the place we live in and our cultural makeup put us well ahead of the national curve.

I believe the lynchpin to thriving in a postpeak world will be grain.

I am talking about grain for eating, not making into biofuel. Grain fills bellies of people, chickens, pigs, and, from time to time, can supplement the grass-based diets of horses, cows, sheep, and other ruminants. Grain is a proven powerhouse for an agrarian economy. Before coal, before oil, grain fed the bodies of workers who got the job done with their muscles, and helped feed the hardworking animals who carried the loads. If we as a people can get over the inexorable fact that in the future we will have to get work done by hand, back, and hoof to a much greater extent, there will be hope.

If I had to name two additional resources we will need in place, those would be grass and wood. But in Vermont, we already have active stewardship of our pastures and woodlands. The grain is still neglected, but it is right at hand, ready to take its former place in our lives and on our tables. Grain is not a simple silver-bullet solution to peak oil but is a potential part of the complex, cooperative response that will be required of us. Grain culture cannot thrive without community. And it cannot thrive for long absent a diversified, ecological approach to agriculture.

Here at our farm in the town of Ferrisburgh, just outside the village of Vergennes, Vermont, we are engaged in an experiment of sorts, attempting to bring local wheat back to nearby tables using antiquated machinery and a large wood-fired oven. Ours is a new operation, and our journey thus far (open one year to date) has not been free of pitfalls, yet I think that there is promise enough in this model that others might care to duplicate or adapt it. I would offer our example up as a counterpoint to the technological-fix type of approaches to current problems. Significantly, our approach has essentially nothing new in it. It is just our combination of elements that is somewhat novel. Those who are ready to accept that sometimes the way forward is backward may be intrigued. Quite simply, our grain operation is everything the mass-market system is not: small scale, diversified, vertically-integrated, and local in scope.

Ten acres are used annually for grain production, chiefly winter wheat. At an average yield of one ton per acre, this makes for 20,000 pounds of wheat berries. If some bran is removed during milling, we may have 15,000 or so pounds of flour in total. To buy an equal amount of flour from our local mill would cost \$12,000 at today's prices. While ten acres is not a lot of wheat, especially by Western standards, it is a lot to us. Those 15,000 pounds of flour represent a potential 15,000 loaves, which retail for about \$3.50 each. So that's a potential \$52,000 worth of income for the farm. I say potential because we have not realized this yet; miscalculation and inexperience lead to waste here and there, but we usually are able to clean up our mistakes and profit, however slightly, by them because we are diversified.

Occasional spoiled batches and overproduction are facts of the baker's life. But on our farm we have the luxury of dumping our mistakes to the beasts. This is never as satisfying as selling every loaf, but it is better than paying to haul garbage to the landfill. The animals' main purpose is to maintain the pastures that will rotate back into grain production in time, and also to fill the barn with a lovely manure pack that will fertilize the plots under the most intensive cultivation. Sustained cropping arguably cannot exist without animals to aid in nutrient cycling. In the conventional supply chain, wheat is trucked at least four separate times—from the combine to the elevator, elevator to

milling facility, then to a wholesaler, and finally to the baker. The average article of food is said to have traveled about 2,000 miles to your plate, but this is probably too low when it comes to conventional wheat and bread. At our farm, from planting to baking, a kernel of wheat travels about a quarter mile. At no stage are we dependent on any input or process that our community hasn't the potential to supply. This kind of start-to-finish control means real local self-reliance and security. It is what Jefferson had in mind for us.

Baking transforms wheat from one of the most durable foods to one of the most perishable, with a shorter shelf life than baby salad greens! Marketing to immediate neighbors not only means fresher bread but also fosters a stronger bond between grower and eater.

Initially, we intended to market our bread within a two-town radius. Perhaps even that is too broad and will cost us too much in gas, so our current focus is our own town and those immediately adjacent. In time, as travel costs increase, operations such as ours with a strictly local focus may become increasingly competitive, providing they do not depend overmuch on inputs brought in from great distance.

Most Vermont towns have at least a little arable land here and there. If these fields were stewarded with care, and the resulting grain diverted to a nearby mill and bakery, the resulting thousands of daily loaves could provide Vermont with a major buffer from the remorseless national food commodity market. Just one ten-acre farm and bakery in each of our 251 towns could provide two loaves made from native flour each week, year-round, to nearly 37,000 Vermonters, a major dent in our food needs. Even if a crisis never comes, if we succeed in reviving and reinventing our historic culture of grain and bread, we would be the richer for it.