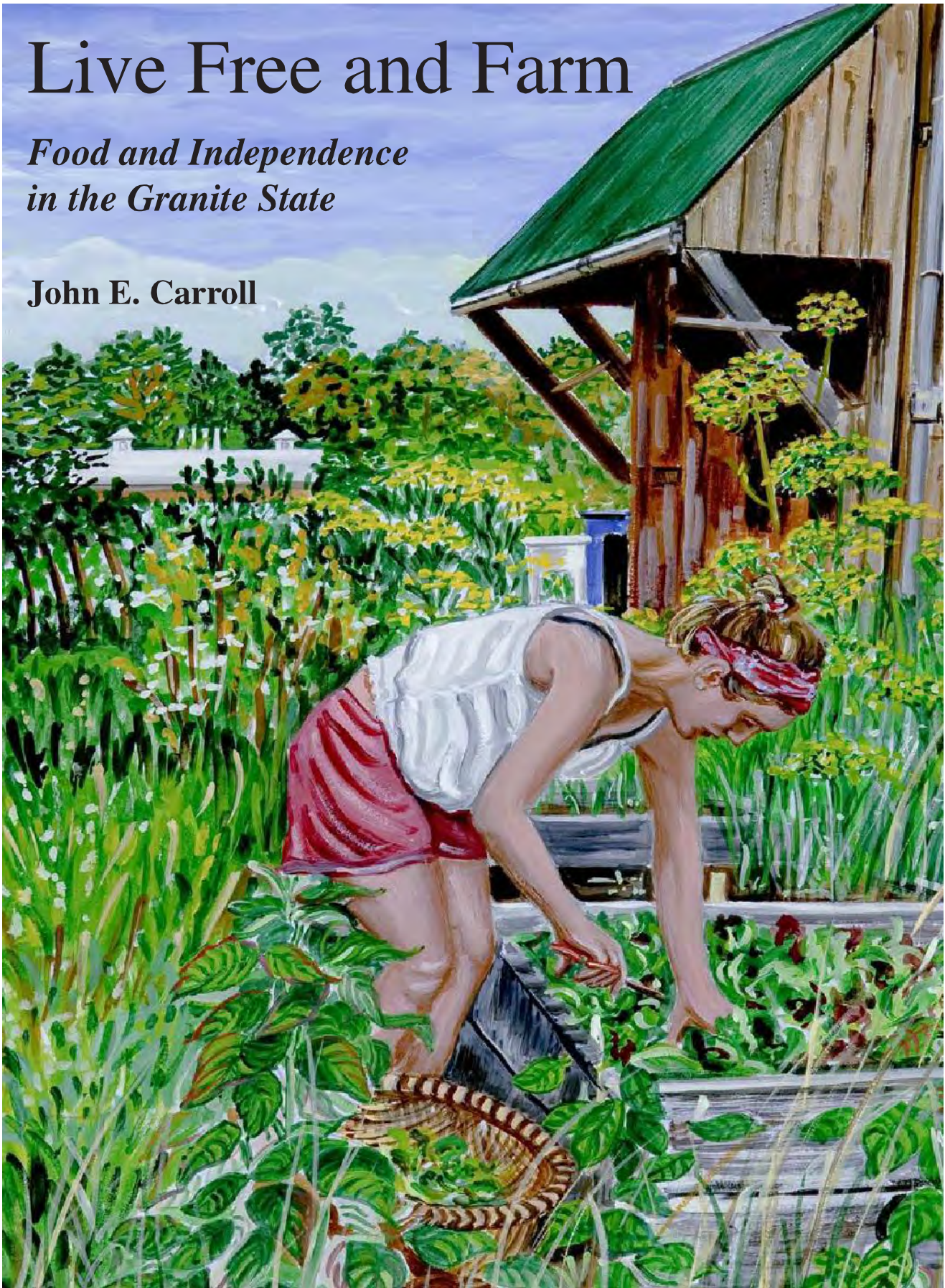


# Live Free and Farm

*Food and Independence  
in the Granite State*

John E. Carroll



Foreword by Former Agriculture Commissioner Steve Taylor

With Illustrations and Book Design By Linda R. Isaacson



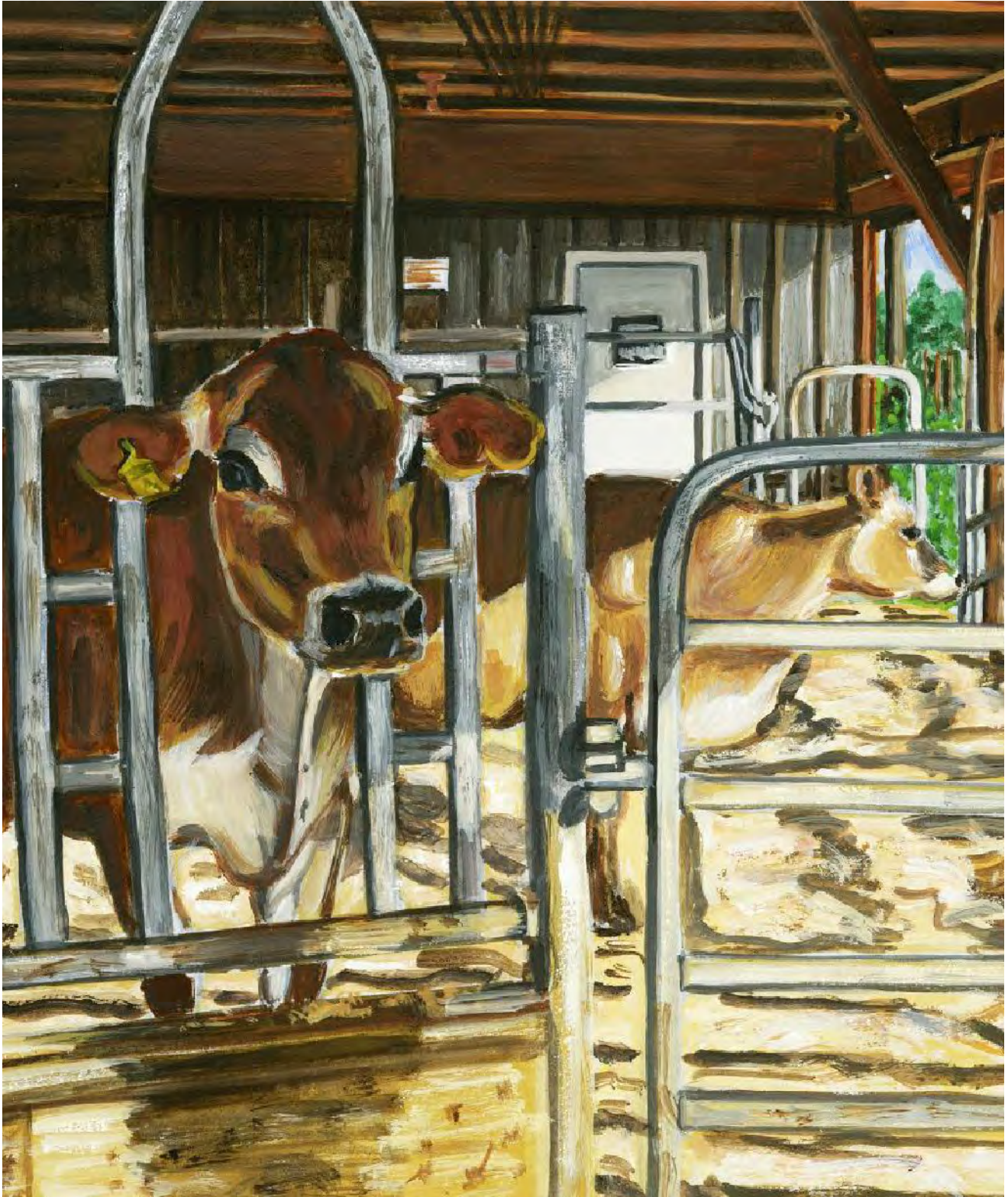
*Food is strength*  
*Food is health*  
*Food is energy*  
*Food is hope*





“We start, and we stay ‘til it’s done. That’s the way it is.”

Maine dairy farmer uttering the closing words to “*Betting the Farm*,” the heroic film story of Maine’s Own Organic Milk, known as “MooMilk.”



# Table of Contents

<b>Acknowledgements.....</b>	<b>4</b>
<b>Foreword.....</b>	<b>5</b>
<b>Dedication.....</b>	<b>6</b>
<b>Live Free and Farm: Food and Independence in the Granite State.....</b>	<b>7</b>
<b>The Agrarian Revolution.....</b>	<b>7</b>
<b>Oil, Food Security, and Our Freedom to Farm.....</b>	<b>16</b>
<b>Our Land Grant University as Servant and Partner.....</b>	<b>27</b>
<b>Elevating Agriculture in New Hampshire.....</b>	<b>39</b>
<b>Conclusion.....</b>	<b>40</b>
<b>Appendix.....</b>	<b>43</b>





# Acknowledgements

I wish to thank:

Dean Jon Wraith and my colleagues in the College of Life Sciences and Agriculture at UNH;

My colleagues on the Durham Town Agricultural Commission;

My colleagues on the Oyster River School District Sustainability Committee;

My students at UNH, those studying sustainable agriculture and those studying ecological ethics and values;

New Hampshire's farmers and gardeners, and particularly those farmers engaged with the Seacoast Growers Association and their summer farmers markets, Seacoast Eat Local and their winter farmers markets, and the wonderful "foodies" of Slow Food Seacoast;

My daughter, Abigail Carroll, author of *Three Squares: The Invention of the American Meal*, (Basic Books, New York, 2013) for her literary advice and guidance;

My daughter, Cozette Russell, and her husband Julian, for their inspirational film study of a local farm, *Brookford Almanac*;

My wife Diana, Durham Town Councilor, who has taught me so much about town government;

The late George Curly Frick of Durham, who convinced me to come to New Hampshire so many years ago;

And finally, the spirit and inspiration of my friends and mentors, Wendell Berry, Wes Jackson and Gene Logsdon, for a lifetime of agricultural inspiration.

*John E. Carroll*



Thank you to Lisa Nugent, UNH Photographic Services, for the use of her beautiful photographs of "two students working in the UNH Organic Garden" and "Welcome to the UNH Organic Garden."

Thank you to John McLean for the use of his great photographs depicting himself "picking apples" and "student mulching strawberry beds" at the Woodman Horticultural Research Farm.

Thank you to the New Hampshire Farm Museum for the use of their great photograph of "young man with scythe."

*Linda R. Isaacson*



*“We all have a voice. We need to find out how our voice is best expressed.”*  
Terry Tempest Williams

## Foreword

By Steve Taylor



*Farmer, Writer and Former New Hampshire Commissioner of Agriculture,  
Food and Markets*

Those of us whose noses are constantly buried deeply in the day-to-day toil of a farm enterprise very often are scarcely aware of the developing trends that are coursing through agriculture and changing the environment in which we produce and market our crops. I'm one of those farmers often called “grinders” who are focused constantly on things like repairing machinery, milking the cows, beating the weather and making payments to the bank, such that the big picture—a picture that surely includes me-- often goes unseen. But here is John Carroll, a practiced observer and gentle critic of the agricultural scene in New Hampshire and beyond, to illuminate the developing dynamics that could point the state toward greater self-sufficiency in food production and consequent improvements in human health, environmental quality and economic well-being. He offers plenty to draw attention of any farmer away from the humdrum of chores and fieldwork to examine what is happening on a macro scale and how individual farm operations will fit in an agricultural sector that's being reshaped by changing consumer tastes, public policy and economic forces.

Prof. Carroll offers plenty of evidence to convince me that New Hampshire has the necessary tools to move toward far-greater food self-sufficiency, perhaps most important being a fairly affluent population and a fine university with the research and teaching capacity to undergird the science and business sides of farming. It has neighboring states that have already tested many strategies to expand local food production and there is also compelling evidence of consumer interest in the form of an explosion in numbers of farmers' markets.

But is there the will to make a significant shift to food self-sufficiency happen? Just a few years ago I would have been skeptical whether New Hampshire agriculture with its hyper-local, individualized mindset could marshal the tools Prof. Carroll shows us are there to be used to expand production and gain deep, stable consumer support in the marketplace. Now, however, having absorbed the arguments he sets forth in this volume I have a more optimistic feeling, and will vow to lift my eyes up from the daily round of farm duties to assess what I hope will be concrete progress toward a New Hampshire that grows and enjoys a lot of the food it eats.

Stephen H. Taylor  
Meriden, N.H.

Steve Taylor was the longest-serving state Commissioner of Agriculture in the United States. He served New Hampshire in this capacity for twenty-seven years, retiring in 2007.



*“The new math dictates grazing.”*

*New Hampshire Agriculture Commissioner Lorraine Merrill*

## **Dedication**

This little book is for all those in New Hampshire and its communities who eat, and for Vermonters, Mainers and Bay Staters who are interested in what the Granite State has to offer.



“Rick Kersbergen of Maine Cooperative Extension points out the path to our grazing future. Rick helped UNH locate its first in the nation land grant university organic dairy at UNH’s Burley-Demeritt Farm in Lee, New Hampshire.”



## ***Live Free and Farm: Food and Independence in the Granite State***

New England is today in the midst of an agrarian revolution. New Hampshire, most of whose population is located in, or near to, the heart of New England and its metropolitan markets, is a key participant in that revolution. Given its political philosophy, the Granite State is also a champion of freedom of the individual and individual rights, including the freedom to farm and the right to produce one's own food. These two forces, the agrarian revolution and individual freedom, together will account for fundamental change in New Hampshire's food system.

The University of New Hampshire, the property of the people of New Hampshire, has a long established tradition since the 1870s of serving Granite Staters, and serving them to an extent well beyond its service to enrolled students. UNH also has the infrastructural and historical capacity to champion our agrarian heritage and support the agrarian renaissance in our state, in carrying out the mission assigned to it by Senator Justin Morrill and President Abraham Lincoln, when they authored and signed, respectively, the federal Land Grant Act of 1862. This little book, a sequel to the UNH trilogy *The Wisdom of Small Farms and Local Food* (2005), *Pastures of Plenty* (2008), and *The Real Dirt* (2010), <https://drive.google.com/folderview?id=0BzAeSH0jACTXZDYxWUFoc2ISOG8&usp=sharing>, is designed to encourage the people of our state to feed themselves to a much greater degree than they have done in recent decades, and to do so through new ideas, new creativity, new thinking, new technologies, in means as varied as might be found in each and every local place in the state.

### ***The Agrarian Revolution***

Some will call it a renaissance, a return of agriculture to the Granite State. I would go further and call it a revolution, a revolution at the grass roots. It is a revolution perhaps not yet visible to all, but one which is increasingly apparent to and experienced by greater and greater numbers of our citizens.

In his foreword to the first book in my New England trilogy on sustainable agriculture, *The Wisdom of Small Farms and Local Food: Aldo Leopold's Land Ethic and Sustainable Agriculture*, New Hampshire agricultural historian Ron Jager acknowledged, as he did in his own earlier book, *The Fate of Family Farming*, the earliest stages of the then new agricultural renaissance just beginning to appear in New Hampshire. But his book principally focuses on what New Hampshire had lost and was continuing to lose at that time: a small-scale version of industrial agriculture/factory farming, commercial commodity and export agriculture which was largely dependent on prices set outside of New Hampshire over which New Hampshire farmers had no control. When these prices failed to meet the actual costs of production (as they then did and continue to do today in conventional dairy farming), our state's agriculture contracted in size. Thus, 20<sup>th</sup> century agricultural shrinkage continued into the 1990s. Then, just before the turn of the millennium, New Hampshire

"If you eat, you're in."  
"Eating is an agricultural act."  
"Gardening is a revolutionary act."  
"Know Your Farmer"  
(Maine Farmland Trust)

"No Farms, No Food"  
"If you eat from the soils of your home,  
you are an embodied expression of your  
place."

*Orion Nature Quarterly*

agriculture took what some would call a surprising and unexpected turn. A new renaissance in New Hampshire agriculture took off and has now two decades later evolved into a full-fledged revolution on the ground and at the grass roots. This revolution can be seen in all regions of the state, in town, city and countryside. And it expresses itself in many different forms, many of them unlikely and of a nature that would have surprised New Hampshire residents of just a decade or two ago.

The New Hampshire agricultural story has, of course, seen many ups and downs, many stops and starts, over its long history. These ups and downs include the widespread Merino sheep farming and wool craze of the early 19<sup>th</sup> century (which put more money into the hands of New England farmers and farm communities than any other event in our agrarian history – the wonderfully iconic Greek

**Wendell Berry on “Uneasiness, and Hope”:**

“I believe that there is hope in the increasing uneasiness of people who see themselves as dispossessed or displaced and therefore as economically powerless. Growing out of this uneasiness, there is now a widespread effort toward local economy, local self-determination, and local adaptation. In this there is the potential of a new growth of imagination, and at last an authentic settlement of our country.”

Wendell Berry, 2007

Revival architecture of classic New England townscapes is physical evidence of that wealth). And they include the mass emigration of New England farmers out of the region in the post-Civil War era, with the consequent abandonment of so many New England farms. They also include early 20<sup>th</sup> century agricultural renewal, especially in dairy, poultry, and vegetables. The threats continue even today, as we are reminded in Peter Randall’s recent film, “*Farming 101*”, which depicts threats to three farms along the New Hampshire-Maine border. And we have witnessed the decline of grazing, which began with the “zero grazing movement” of the early 1960s, coincident with the broader loss of agrarian thinking, of agrarian culture, and the growth of suburbanization - the latter enabled by ever cheaper oil prices and increased dependence on cheap food from afar. This most recent era of decline stretched from the 1960s to the 1990s and

was so significant, involved such a great loss of farms and farmers, of farmland and of local food production, that it began to change the region’s dominant culture from agrarian to suburban, leading to a growing dependence on commuting long distances to work and, farther afield, to tourism as the economic staple.

But something entirely new started about 1995, the year that marks the nadir of agriculture and farm numbers in modern New Hampshire. A “return to local food” movement, with demand for local food as the driver, began to take hold, a movement now nearly two decades old and growing as this little book is written.

## **A Trilogy of Books**

In the first volume of the trilogy, *The Wisdom of Small Farms and Local Food: Aldo Leopold’s Land Ethic and Sustainable Agriculture* (NHAES Publication #2260, 2005), I wrote about the experience of Maine and Vermont, which have shown us for over 25 years how to practice truly sustainable agriculture in New England. Aldo Leopold’s land ethic provides a foundation for this discussion, as does the marriage of sustainable and regenerative agriculture with the best tenets of natural resource



New England agriculture's response to climate change: "Plant early. Plant late. Plant high. Plant low. Vary crops. Vary varieties. Think about crop protection systems."

Russell Libby

and environmental conservation. Maine's and Vermont's significant efforts since the late 1980s set an example from which New Hampshire may gain valuable knowledge not only for a sustainable agriculture but also for a much more resilient and adaptable form of agriculture.

Maine's new found agricultural vitality has given us:

- The nation's first undergraduate degree program in the field, the Bachelor of Science in Sustainable Agriculture, dating from 1988, which has served as a University of Maine model for other land grant universities and for other colleges, both public and private;
- An early state-wide organization, the Maine Sustainable Agriculture Society (MESAS);
- An ever-expanding role for the well established Maine Farmers and Gardeners Association (MOFGA), their heavily attended MOFGA Common Ground Country Fair, their annual Farmer-to-Farmer Conferences, and their publications and programs, all of which are the envy of the organic agriculture movement in many other states across the nation;
- Highly active women's, organic, grazier, and small-scale and beginner farmers' networks;
- A host of fruit and livestock associations, based not only on species and regions within the state but even on breeds, making Maine the epitome of deTocqueville's claim that Americans are joiners par excellence;
- A new recognition of Maine farmers themselves, as described in the book's interviews with so many whose passion is to carry Maine into an exciting agrarian future, from Kittery to "The County."

### Conversion

According to the late Russell Libby, long-time head of MOFGA, Maine already produces more calories than it consumes. With the goal for Maine being 80% food self-sufficiency by 2050, it's only a matter of conversion. Maine will likely become the source for 50% of New England's home-grown future food supply, with the other 50% coming from the other five New England states. (Russell Libby, Keynote Address to the Annual MOFGA Farmer-to-Farmer Conference, November, 2012).

Vermont's new found agricultural vitality has given us:

- UVM's Center for Sustainable Agriculture and all of the many UVM agricultural and food-based initiatives and activities surrounding that important Center;
- Extraordinary contributions in intensive rotational grazing, both at UVM and state-wide, and the pioneering Vermont Grass Farmers Association (VGFA), much influenced by decades of grazing research by UVM's Bill Murphy;
- A growing NOFA-Vermont lapping at the tail of MOFGA for preeminence in the region;
- Vermont's new Farm to Plate Strategic Plan, making encouragement and support of the local food and farm movement a matter of state policy;
- A powerful group of small-scale and family farmers committed to a true ecological and Leopoldian philosophy, a philosophy of scale and proportionality and a sense of limits prescribed by both Aldo Leopold and Wendell Berry, all so critical to the rise of modern agrarianism. More recently, Vermont has demonstrated to New Hampshire and the nation the invaluable Vermont Farm to Plate Strategic Plan and Program, making Vermont the first state to make the support and encouragement of local food and farming official state policy.

The second volume of the trilogy, *Pastures of Plenty: The Future of Food, Agriculture and Environmental Conservation in New England* (NHAES Publication #2340, 2008), tells us that grass farming (as the Vermonters call it) -- the grazing of animals to produce the full range of dairy product (milk, cheese, butter, yogurt, ice cream) and meat product - beef, lamb, pork, goat, poultry of all kinds, and many other kinds of meat - is the key, in particular, to New Hampshire's future welfare, its food security, surrounded peripherally by fruit, vegetables and grains to the greatest extent possible. In this volume, soil scientist Sid Pilgrim, New Hampshire State Soil Scientist for 25 years, tells us of New England's remarkable grazing soils and its endowment of cool season grasses, long recognized as among the best in the United States. In *Pastures of Plenty* we also learn of the developing agrarianism in each of the New England states and of the critical importance of direct marketing, farmer to consumer, and farm to plate. The important economic and cultural role of New England's dairies features in the chapter "Pastures of the Milky Way: Dairy in New England" – as well as the importance of grass-based, small-scale and organic dairies.



The core idea of *Pastures of Plenty* is the notion that New England is a land of plentiful and productive pasture, and could be much more so. When you see countless acres of scrub woodland far removed from mature forest, think pasture, for that is what you are looking at. In other words, New England, including that land of granite rocks, hills and mountains known as New Hampshire, is an agricultural region, a land ideally suited to small-scale grass farming, and thus to the production of every conceivable kind of dairy and meat product. New England's geographic reality, excellent grazing soils and unique cool season grasses, in a well-watered environment, places it, including New Hampshire, in an excellent position for the production of highly nutritious food. Stones, rocks and hills, and an allegedly short growing season, are not the obstacles most people think, especially when the new technologies of season extension and lightweight (and even solar-powered) pasture fencing come into play. And New Hampshire is especially suited to small-scale, decentralized, integrated grazing systems, ideally serving multispecies grazing, as taught by Joel Salatin and others, and as detailed in *Pastures of Plenty*. New Hampshire is also ripe for silvo-pasture, that is, the utilization of land to maximize production of both trees and meat, a growing practice in New York, Vermont, and elsewhere. Nearness and accessibility to market, especially for New Hampshire, is the icing on the cake. All of this occurs in the midst of the local food and farm revolution so captivating New England today.

The economic key to this pasture potential in New England is the phenomenon of direct marketing, farmer to consumer, and farm to plate – a system marked by the distinct absence of a middle man. This works best in a small-scale decentralized system such as that which New England has on offer: farmers markets, summer and winter, large and small, all over the landscape; on-farm sales; CSAs; farmer-restaurant contracts; school and other institutional contracts, and many similar arrangements. New Hampshire's new agriculture is fully dependent on direct marketing at its core. And the growth of food hubs across the region is icing on the cake, enabling significant added value to the product of New Hampshire farms and the aggregation of farm sales from improved efficiency and economic return to the farmer and the region.



## GRAINS: THE ODD MAN OUT

When considering the five major food groups, meat, dairy, vegetables, fruit and grain, in the context of New England food production, grains have been the “odd man out”. It is assumed that New England is not, and cannot be, a producer of grains, in spite of the fact that the six New England states produced plenty of wheat, buckwheat, oats, rye, barley and spelt in the 18th and early 19th centuries. In fact, the Southeast Coastal Plain of New Hampshire, upon which UNH stands today, was once the breadbasket of the Granite State. Everyone knows New England is not a prairie grassland in the sense of Illinois or Iowa. And yet New Hampshire can produce a variety of important food grains, and of high quality as well, enough to support an important and profitable artisanal bread and baked goods industry for local sales within the region. Today, Vermont and Maine are moving into quality wheat and small grains production, and even Massachusetts is active in this area. New Hampshire is just beginning to enter the field. And secondary lower quality animal feed grains are emerging as a byproduct, mainly to fill an important need for poultry feed.

Much excitement surrounds New England’s emergence in high value food grains. Examples include:

- Heather Darby’s emerging work for UVM;
- Ellen Mallory and John Jemison’s work for UMO;
- Businessman Jim Amaral’s entrepreneurial work in partnership with Maine grain-grower par excellence Matt Williams to produce high quality Borealis Breads and other baked goods;
- City of Northampton, Massachusetts’ project to demonstrate that grain can be grown in urban gardens if collected and transported to a central point in the city for milling;
- New Hampshire farmer and agricultural leader Dorn Cox and his Great Bay Grain Growers Association;
- Fast-growing interest in local grains and hops by artisanal and craft beer brewers (New England is the nation’s leader in supporting such breweries), including certified organic product;
- The beginnings of grain demand by local New England producers of spirits (vodka, gin, vermouth, whiskey);
- The emergence of Skowhegan, Maine as an artisanal grain milling center, absorbing the growing grain production of the Kennebec Valley farms as well as that of other grain farms farther north; and
- The dramatically rising demand for micro-brewed beer from local ingredients, for local spirits (vodka, gin, whiskey, vermouth, partly from grain as well as apples, berries and potatoes), and, of course, artisanal bread and other baked goods.



The prospects in particular for oats, barley, spelt and buckwheat should provide a good supplement to other food production and establish a New England place for grain.

*Pastures of Plenty* also addresses the question of breeds and the critical role of “heritage breeds” of animals and “heirloom varieties” of plants. If we are to understand the role of grazing, of grass farming, of animals adapted to the land, of high nutrition and ecologically–produced fruits and vegetables, we must have the right breeds available, those best adapted to grazing, to local soils, to place, the New England place, and, of course, to animal and human nutrition and health.

New Hampshire’s new agriculture is thus fully dependent on the right breeds and varieties of animals and plants, those breeds and varieties that not only do well here but also subsist on very moderate inputs (of energy, of capital, of veterinary service, etc.), largely because they closely reflect nature’s reality in the state.

### Sixteen Turkeys

My memory of Hurricane Sandy is an unusual one: I watched 16 very stoic and orderly wild turkeys crossing my backyard in the midst of Hurricane Sandy!

In *Pastures of Plenty* I also introduced the reader to a vital infrastructure for agriculture in New England, our land grant universities, and I describe in detail UNH’s experience with the development of its truly unique first-in-the-nation organic dairy, about which all Granite Staters should feel proud. As well, there is material on UNH’s broader agricultural efforts, and even an introduction to UNH’s university farms, a subject treated in much greater detail in *The Real Dirt*, the final book in the trilogy.

In *The Real Dirt: Food Sufficiency and Farm Sustainability in New England*, I wrote of the link between insecure oil and its result: insecure food. I wrote of the power of gardens to feed and otherwise serve us, of the unique and useful New England tool of town agricultural commissions, of a model New England city for localvores, and, most importantly, of the nearly forgotten role of the six New England land grant universities and their over twenty university farms as invaluable infrastructure in support of New England’s food security.

*The Real Dirt*, also the name of an undergraduate course and a graduate seminar I teach at UNH, is based on the notion that, for reasons of energy, economics and health, local food is now an imperative for New Hampshire (and for every local place). The forewords by Mark Lapping and Matt Simmons point in that direction, as does the impassioned letter from a contemporary New Hampshire farmer that constitutes the epilogue. That “We must have oil before we can eat” is a reality of our time. As oil goes, so goes food. If our oil is insecure then, by definition, our food is insecure. If we don’t like this reality, a reality of our own making (and a logical one under the circumstance of abundant cheap oil), our only choice is to seriously reduce that dependency. This can be done, but not easily, and not without questioning the very oil-oriented culture in which we live. What our local towns can do to help us in this endeavor, what we ourselves can do (i.e., gardens of all kinds), and what our brethren in one New England city have already done, features in chapters on these subjects. We can also look to the model of land grant universities (in our case, UNH), and





what they have done through their long history, what they are doing today, and, more importantly, what they could be doing to assist and lead our people in the new challenge, the new opportunity, of agrarianism in our midst. If local food is, indeed, an imperative, we have no choice but to employ them in this sacred task. “No Farms, No Food” reads a popular bumper sticker. If we want security of our food supply, we’d better be sure to insure the health of our existing farms and take every opportunity possible to encourage and protect our new farmers and insure their access to tillable fields and pastures. Our current alternative appears to be obesity, diabetes, heart disease and cancer. Our future alternative may be hunger, if not starvation. It’s time to move.

In the words of writer Thomas Keneally, “Famine has not had its last ride.”

## “Live Free or Die”

The purpose of this volume, *Live Free and Farm: Food and Independence in the Granite State*, is to point a way forward for New Hampshire in the midst of the present reality, the agricultural revolution surrounding us today.

New Hampshire, the land of “Live Free or Die,” is libertarian in its instincts and history, perhaps more so than most states in the nation. Being of such a libertarian bent, New Hampshire may be somewhat more prepared than others for the necessary decentralization and relocalization which the new reality in energy and economy dictates if we are to survive and flourish in a world of lesser oil dependency and a more localized economy.

Different people, of course, have different views of libertarianism and how far it should be carried. Like “local,” its nature is relative. But New Hampshire has immediate neighbors - Vermont, Maine and Massachusetts - all of whom are making steady progress in the libertarian practice of local food and farming. And yet New Hampshire itself, all of its 221 towns and 13 cities, is perhaps better situated than most to move toward re-localization of its society thanks to its strong libertarian heritage, not to mention its large and welcoming markets for local production of farms and cottage industries, aided by its healthy town governments. Local is truly the New Hampshire way.



### The Wisdom of Buckminster Fuller

“You never change things by fighting the existing reality. To change things, build a new model that makes the existing model obsolete.” In other words, we need a positive replacement for what is, and not focus on the abstraction of what is not yet and cannot be envisioned.

### A Heritage of Revolution

At the MOFGA Common Ground Fair, author and farmer Shannon Hayes in her keynote address identified the defining problem of our time as the separation of consumption from production, as true in New Hampshire as anywhere else. In our early history as an independent republic when our democracy was in its infancy, production and consumption were one and were carried out in the homestead and in the immediate community. In our recent history, production and consumption have been separated and we have become a land of consumers. The early American colonists, once totally reliant on Britain, became independent of

Britain as they “developed a local cuisine, craftspeople put down roots, we began to trade with each other. We were able to declare independence because we had the ability to BE INDEPENDENT,” says Shannon. Today, we only know how to be consumers, to be “takers” rather than “givers.” The solution is to become producers again, and to once again merge production and consumption in the same place. For the Granite State this means not only a return to the roots but a return to 90% of our history, a return to who we truly are. This is our key to self-sufficiency, to food security, to democracy, to economic and political power, and to our own independence – all at the grass roots, de-centralized and localized in every local place. With this, “the oligarchy in power that is calling all the shots begins to crumble for the same reason that we won the War for Independence, because we no longer need them.” (Shannon Hayes, “Unraveling Consumerism,” 2012)



Wendell Berry has often spoken of gardening as a “revolutionary act.” At UNH we have often spoken of the renaissance in New Hampshire and New England agriculture as so widespread and so diverse in its nature as to be not just a renaissance or return of agriculture to our region but a true revolution in its scope and depth, a revolution at the grass roots. And now New York writer and farmer Shannon Hayes has shown us that what we are witnessing is truly revolutionary in an even more literal sense than we had previously suspected. And she has even drawn a direct link to our own revolution against the British in the 18<sup>th</sup> century! She reminds us of the gradual integration of production and

### **Common Ground Country Fair: An Inspirational Support System for Local Food and Farming**

New Hampshire folk, as other New Englanders, have, for over three decades, been inspired by the values of Maine’s Common Ground Country Fair, the annual MOFGA (Maine Organic Farmers and Gardeners Association) event that today draws over 60,000 people to Unity, Maine for three days every September. That clear picture of what could be in local food, fiber and energy security at the homestead and community level in New England towns has been a vital image in support of what New England is becoming today. Each year that Fair, which still grows in size more and more each year, inspires perhaps a bit less, for so much of what the Great Fair represents has already arrived, has been born and is being nurtured, in so many of New Hampshire’s communities. Such includes a new sense of agrarianism surrounding market gardening, farmers markets, CSAs and CSFs (community supported agriculture and community supported fisheries, respectively), restaurant and institutional demand for locally sourced food, backyard farming, chickens if not in every pot at least in every neighborhood (and perhaps soon pigs, goats, sheep, the family cow), farming workshops, culinary connections to local food everywhere, and in so many other ways, not the least the private and community gardens ubiquitous wherever one looks. And agrarianism in one form or another is now a very common topic of conversation. Common Ground Fair has played a likely significant role in this social move to agrarianism in our New England midst and likely will continue to be a powerful force to assist and refine that movement in the future. Many Granite Staters have been participants in and inspired by that annual event every September.

## OUR ERAS OF DEPENDENCE AND INDEPENDENCE

(after Shannon Hayes, “*Unraveling Consumerism*,” 2012)

- 1620:** Complete dependence
- 1750-1770:** Growing independence
- 1770:** Economic independence achieved
- 1775-1783:** Revolution
- 1783:** Economic independence achieved again
- 1870:** Growing dependence at the individual and community level
- 1940-1995:** Nearly complete dependence at the individual and community level
- 1995 – TODAY:** Growing independence at the individual and community level (especially in the Northeast and in a few other locales)

consumption which marked that 18<sup>th</sup> century, following the pure state of dependence of the colonies on Britain which had prevailed in the 17<sup>th</sup> century (i.e., the separation of production from consumption).

Increasingly during the course of the 20<sup>th</sup> century we have become an “unsettled” people, a people too dependent on goods from afar, a people unwilling to produce for ourselves (hence, the title of Wendell Berry’s popular 1977 book, *The Unsettling of America: Culture and Agriculture*). The revolution occurring today in local food and farming holds the promise of returning us to food, both its production and its consumption together, as a central organizing principle in our lives and in our communities, a fundamental re-settling of America.

How so, then, a revolution in local food and farming? How might we know of such a revolution and its potential for our own resettlement, our desired return to independence? We can see it in the significant and continuing growth in the popularity of farmers markets, large and small, winter as well as summer, in every local place, including in the neighborhoods of

large cities and in the smallest of villages. Such markets, supplemented by CSAs, on-farm sales, and restaurant, school and other institutional contracts and arrangements, and now rising food hubs, are

the epitome of direct sales, farmer to consumer, the economic key to local farm hegemony. And they are based on production near to and even within our own communities, within our own neighborhoods, production within our very midst. Secondly, we witness the growth and proliferation of gardens large and small, increasingly diverse, even on roof-tops and on municipal land, producing growing quantities of food of all types, delivered to recipients near and far, through sales, through barter, through donation, all in addition to the provisioning of their own households. We witness production and consumption together, as one, on the same site, yielding INDEPENDENCE in its wake. We also witness, simultaneously, the growth of poultry, and sometimes other livestock, in the household, a source of protein, meat and eggs, and an important and necessary support for the gardens in terms of soil fertility.

### Wendell Berry on Individuality

“The most insistent and formidable concern of agriculture, wherever it is taken seriously, is the distinct individuality of every farm, every field on every farm, every farm family, and every creature on every farm. Farming becomes a high art when farmers know and respect in their work the distinct individuality of their place and the neighborhood of creatures that lives there.”





Concurrently, we witness serious growth in demand for artisanal bread and baked goods from locally grown grain, and of craft beers and spirits, likewise from such grains. We witness demand for new small-scale infrastructure for the processing of local foods, from abattoirs to canning and preserving facilities to community kitchens. And we witness the instruction in the culinary arts which goes with it. We watch also the rise of something called food hubs, the organization of small-scale and local but whole systems in order to aggregate and thus more efficiently deliver all of this to the people. We witness land and land tenure systems to become the local and necessary resource base, connecting new landless farmers to the land.

And, perhaps more basic than anything else, we witness the rise within our youth of a serious interest in all of these agrarian things, a growing desire to participate in them, and even, for the first time in several generations, a growing desire to farm. This desire is somewhat evident in the secondary schools but even more so in colleges and other post-secondary education. It represents a return to agrarianism among the young after decades of anti-agrarianism which has created cynicism among our dying breed of older farmers and farm families. Perhaps this is occurring just in time not only to save our food system but to save, in the words of Shannon Hayes and Wendell Berry, our democracy and our independence as well. Revolution is at hand.

## ***Oil, Food Security, and Our Freedom to Farm***

### **Oil Before Food: We Must Have Oil Before We Can Eat**

In modern life, oil underlies and is the foundation for all food: Oil before food – we must have oil before we can eat. No oil = no food. The peak in U.S. oil production occurred in 1970, a fact that has been recognized since 1975. The phenomenon of global peak oil (that is, the peak in the global production of light sweet crude) likely occurred in late Fall, 2005. (Princeton University petroleum geologist and oil industry exploration geologist Ken Deffeyes jokingly claims Thanksgiving Day, 2005!) In late 2005 the long-continuing rise in global oil production ceased and production entered onto a plateau at 71-75 million barrels per day (mbd), a range which has continued to the present. That marked the end of “cheap oil,” upon which our society is so dependent. Credibly reliable voices

### **Pigs, Ducks, Veggies, and Freedom**

While recently attending an agricultural conference, I asked a young farmer sitting across from me what she produced on her farm. She responded: ducks and pigs. I thought that was rather unusual so I asked her how she had come to settle on those two creatures. She explained that she was really a vegetable grower but could not make enough from veggie sales to avoid the necessity of an off-farm income. Her goal was to work full-time on her own farm with no necessity of an off-farm job. And she realized that her greatest and most costly need for her vegetable production was soil fertility. And her greatest unused resource was vegetative waste. The answer? Ducks and pigs to provide that needed fertility while at the same time consuming the vegetative waste and providing three new revenue streams: duck eggs, duck meat, and pork. She now has achieved her dream of making her farm support all her needs. No off-farm job needed!

With respect to young adults, Michael Pollan remarks in the June, 2013 issue of *Smithsonian Magazine*, “Food is one of the defining issues of this generation.”

claim we are now near the edge of that plateau, and the journey down will soon begin (in 1-4 years, namely 2014-2016).

It is important to note here that oil is defined as it has always been conventionally defined, as “light sweet crude.” It does not include sometimes lower energy quality and much more costly-to-extract and process tar sands, shale oil, heavy or sour oil, “fracked” oil or “tight” oil (which itself is peaking), natural gas liquids, or biofuels, all of which require high energy inputs and expense. Nor does it include very costly and risky deep water drilling. Since our oil dependency is on cheap and easy-to-get oil, it is the global peak in conventional (i.e., inexpensive) oil production which counts, not the production of expensive oil which inevitably contracts our economy and reduces or even eliminates prospects for economic growth, upon which we are also dependent. It is additionally about EROI: Energy Return on Investment. And, ultimately, on EROEI: Energy Return on Energy Invested. Today’s EROEI is simply too low for us to continue as we have.

On the new U.S. production of tight oil (also known as shale oil), “Rather than a romance with abundance, what we see is a plea bargain with depletion,” say Steve Andrews and Randy Udall.

We see before our eyes every day that the peak in global production has arrived. We are now in the zone of peak oil. That peak shows itself in our desperate behavior to replace lost oil, to replace a declining oil supply, in acts of desperation which are becoming more desperate as time goes on. We have indeed arrived at the end of the Petroleum Era.

## Acts of Desperation -- In Response to the Decline of Oil

Today, in the closing years of that Petroleum Era, we are surrounded by acts of desperation, by desperate measures taken, in order to shore up the declining supply of conventional oil, of “light sweet crude,” the high quality and very inexpensive form of energy which has served as the foundation of our lives for nine decades or more. What are these “acts of desperation,” these “desperate measures” that we are taking? And why are we taking them?

### The Wisdom of Wes Jackson

The fossil fuel epoch, with its subsidy of fossil carbon into agriculture, which sponsors other nutrients, obfuscates for most of us today, how little natural capital becomes available in the soils of the globe when fossil fuel-based fertility is introduced.

Witness exceedingly expensive mining (mining, not drilling) of tar sands in Canada, producing a low quality bitumen, a highly polluting and highly corrosive inferior oil product with a very low return on energy invested (energy-in/energy-out) and an excessively high production of greenhouse gases.

Witness deep water drilling in the Gulf of Mexico, in the South Atlantic and elsewhere, producing a good quality but very expensive and highly risky return on energy, as demonstrated by the Deepwater Horizon disaster and its impact on a vast regional economy, not to mention human lives.

Witness shale oil (more correctly “tight oil”) and shale gas drilling, and its necessary dependency on “fracking,” disturbing and polluting ground water, contaminating wells as well as municipal water supplies, once again for a corrosive product of inferior energy return on investment.

Witness the many false starts in the race for Arctic oil, the tremendous loss of money invested in that race, for an oil source that it appears will now not be tapped due to its uneconomic character.

Witness the numerous frantic attempts to move oil by building new pipelines to carry tar sands oil, to carry “fracked” oil and gas from shale rock, to reverse the flow of existing pipelines (particularly in Eastern Canada and New England, directly affecting Maine, New Hampshire and Vermont) to get the oil to increasingly disappearing refineries and out to seaports for export to the more profitable world market.

Witness even the practice of transporting oil by train from Montana and North Dakota (from the Bakken Shale Oil Formation) all the way to a refinery in New Brunswick on the Atlantic Coast, the latter moving through New Hampshire and Maine on the PanAm/AMTRAK Downeaster line through Exeter, Durham and Dover. (The impact of the derailment of these very long oil trains to the water bodies and ecosystems of the New Hampshire Seacoast and to Maine can scarce be imagined.) Witness, likewise, the impact on human life and property should these trains de-rail (as they too frequently do) and explode, as these very volatile cargoes have also done.

**This UNH Graduate Student Gets It**  
In China, farmers are seen as living libraries. They hold the information we need to live sustainably and make it. “We need farmers more than we need transportation. We need farmers more than we need schools or public education. We need farmers producing healthy foods, before we ever need health care. We need farmers more than oil.”

UNH graduate student Mary Ryan

Why take such measures? All of these extreme behaviors (and they are indeed an extreme gamble, in economic cost, in environmental and human risk, and in energy output, producing little additional net energy), coupled with the refusal of the oil industry to invest in new refinery capacity (refineries are today closing their doors for lack of profit), signals that we are at the end of easy oil, the end of cheap oil (in other words, that we are at peak oil), as does the resultant shutdown of refineries through refusal on the part of the industry to invest in oil infrastructure, including the proper maintenance of existing oil pipelines. We are indeed at the end of easy or cheap oil. We are now at or past peak oil.

## **Lucky New Hampshire**

Insofar as we know, New Hampshire does not contain within its borders a single drop of oil (nor natural gas, though it is subject to pipeline and rail transport of both across its borders). As it turns out, Lucky New Hampshire! For in these last days of oil, New Hampshire is escaping most of the turmoil, the misery, the tragedy that is emanating today from those who yet have left in their territory a bit of expensive oil and the uncontrollable greed that derives from it. I refer to the tragedy, human and natural, of Alberta, its tar sands, the destruction of a vast region’s ecosystem and water supply, the destruction of native peoples, the destruction of the residents of “man camps,” the oil workers themselves. And not the least the soiled reputation of Canada as a member of the community of nations. I refer also to the infamous “F word,” the fracking of oil shale for the production of something called shale gas and shale oil, a corrosively dangerous as well as explosive form of fossil fuel. Nor do we share the turmoil, the anger and the fear present today in New York due to



the threat of natural gas fracking in that state. And New Hampshire does not have in its nearby seas a product which would tempt exceptionally costly and risky deep water drilling. New Hampshire does, however, contain the risk of oil spill from pipelines and freight rail routes transiting the state headed for refineries and export seaports elsewhere. And all for what? To export to the highest bidder on the global market. (Places that contain oil have no more oil security than do we, for it all goes to the world market and is sold to the highest bidder. Such places that do have oil just suffer the environmental and human cost of extraction.) That high bidder is often China. It could be said that the oil of which we speak, the oil which carries in its wake so much human hardship, turmoil and tragedy becomes, upon its departure from North America, Chinese, Indian or perhaps Brazilian oil, not American or Canadian oil. Pick up any newspaper to see what such oil is doing to households across the shale oil and shale gas states from Pennsylvania to Texas, to North Dakota and the Rockies, or to Alberta and Saskatchewan. Likewise, see the collateral damage of huge pipeline spills from prematurely corroding pipelines in Montana (Yellowstone River), Michigan (Kalamazoo River), Alberta (on a host of rivers). And see the continuing impact on the people of the Gulf Coast from their damaged economy from the great Gulf deepwater oil spill. Today, wherever one finds remaining oil and its sister, natural gas, one finds extraordinary levels of human greed and the political corruption which necessarily responds to that greed, at even higher levels than in the earlier decades of discovery and extraction of oil wealth.

### **Tools to Support Food Security and Strengthen Food Independence in New Hampshire**

1. Understanding the connection between oil and food.
2. Understanding the oil problem we face, based on the “acts of desperation” we witness.
3. Understanding and knowing how to utilize the Town Agricultural Commission (AgCom).
4. Eliminating obstacles to food independence (i.e., restrictive zoning ordinances, keying regulations as appropriate to smaller New Hampshire circumstances and realities, etc.).
5. Linking farmers and gardeners to revenue streams and support systems.
6. Encouraging gardening in its many different forms for food production.
7. Linking food-demanding institutions (schools, colleges, hospitals, even correctional facilities, restaurants, etc.) with food producers and food supplies.
8. Understanding the necessary integration of plants and animals in local agricultural systems.
9. Utilizing what New Hampshire’s agricultural land grant university, UNH, can offer today and, importantly, could offer in the future.
10. Celebrating local food in every way and at every opportunity.

Like other Americans, New Hampshire residents are high per capita users of energy, both oil and natural gas. But New Hampshire residents so far are fortunate in their lack of direct exposure to the turmoil, tragedy and corruption which has resulted in its wake. New Hampshire’s only such direct exposure is from the potential reversal of the flow in the Portland-Montreal pipeline (to become, effectively, a Montreal-Portland pipeline transporting tar sands oil rather than imported conventional oil), and the possible expansion of oil transport via rail through the Seacoast (Exeter-Durham-Dover – the Pan Am Rail/AMTRAK Downeaster route), limited thusfar to “experimental” trains of about 110 cars each (an estimated 7 million dollars of oil per train) scurrying from the Bakken oil shale fields of

### **Turning Toward the Forests for Energy Answers**

Nova Scotia and New Hampshire hold in common a dream (more like a fantasy) to cure their fossil fuel energy problem by turning toward their forests, their resource of wood. This resource is normally viewed as a renewable rather than a non-renewable natural resource. Managed appropriately, it is indeed a renewable natural resource. But depleted quite fast, it will become nonrenewable very quickly, if asked to supply the current addiction to such high levels of energy demand and energy waste as we see about us. Until now, such demand and such waste could only be served by fossil fuels. Such is the energy (Btu) content of fossil fuels, especially oil, that this energy source could balance incredibly high demand (and waste) on its back. Living biological sources faced with biological growth rates, and especially with limits of soil fertility, cannot sustain it. Our forests are not the energy answer, whether in Nova Scotia or New Hampshire. The answer lies with us and our behavior, the choices we make as to how to live.

Montana and North Dakota to a refinery in Saint John, New Brunswick, and thence out to the world market. (The latter could generate new investment into Pan Am rail lines, bringing some economic development value to the region, but a derailment resulting in any spillage of this particularly volatile and problematic shale oil would be both an economic and an ecological disaster to the region. We make our choices.)

Even so-called ecologically benign renewable energy forms such as wind are problematic, and New Hampshire is indeed vulnerable in this regard. When one calculates the tremendous quantity of fossil fuel burned in building and maintaining wind turbines on remote mountain tops and steep ridgelines in order to increase wind energy generation, one sees further evidence of this desperation at the end of the Petroleum Era.



### **Insecurity of the Food Supply Lines**

Any soldier working in ordnance (i.e., vital military supplies, whether food, clothing, fuel or weapons) knows the inherent challenges of long and vulnerable supply lines. And yet nary a civilian in the United States ever thinks about the long supply lines supporting our equally long food supply

#### **A Rickety Insecure System**

I wonder about the rickety and insecure nature of the system that provides us 90% or more of our food, a battered system that barely produces a profit. Faced with serious droughts, floods, high and volatile gasoline and diesel prices, and deteriorating infrastructure of roads and bridges, now combined with declining demand for imported food in the Northeast due to growing regional and local supplies sourced within the region, how much longer can long distance food supply continue?

corridors and the inherent insecurity of those supply lines. I am not referring to military insecurity or vulnerability to attack, but rather to fuel insecurity, to infrastructural insecurity, and, therefore, to economic insecurity. Increasingly, the question of fuel insecurity is being addressed, what with the public debate over peak oil and our inability to control the highly volatile and unstable/unpredictable world price of oil (and even questions of supply). And some worry over deteriorating infrastructure, highways and bridges, and the inability or unwillingness of government to address costly infrastructural repair problems. But few concern themselves with the critical economic question: WHAT VOLUME OF

LONG DISTANCE TRANSPORT OF FOOD IS NECESSARY TO KEEP THE FOOD SYSTEM OPERATIONAL? We are all by now aware that each food molecule that we consume travels more than 1500 miles (conservatively speaking) from source to plate; that California, at 3000 miles, is the biggest single food supplier to New England; and that great quantities of food travel from Texas, from the Great Plains and Midwest Prairies, from Mexico and the Caribbean, and even from China and other distant lands, to reach our dinner table. With food demand in the East dropping due to growing interest in “Buy Local,” in home food production, and now even in larger-scale investment

### Three Powerful Conditions (Imperatives?):

1. The NECESSITY of Local Food and Farming – insecurity of continued long-haul of food 1500-1700 miles; high cost of grain; record droughts and floods in supplying food-producing regions; loss of the nutritional value in food over time; increasing contamination of industrial food; desire for and perceived value of local food independence and sovereignty.
2. The ECONOMY of Local Food and Farming – every molecule of local food consumed from local sources displaces a molecule of food consumed from distant sources, creating local jobs as well as control in the local community; money moves directly to the farmer for reinvestment in local sustainable farming.
3. The DEMAND PREFERENCE for Local Food and Farming – the power of knowing your farmer, knowing your food, known as “relationship agriculture”; the need and desire for higher nutritional levels which are characteristic of very fresh food; the social value of farmers markets, CSAs, local agriculture; the physical, psychological, therapeutic, spiritual and food production value of home and community gardens.





firms eyeing Boston and other cities for urban agriculture, at what point does long-distance and mostly truck transport (today providing perhaps 90% of our retail grocery supply) slow down or stop due to insufficient profits and the challenging economics of declining transport of ever smaller quantities of food? It has been thought that rising oil prices, or declining cheap oil supply, or failing highways and bridges, would be the leading threats to the system. But an assault on profits, declining return on investment, may actually do the job first.

Are we smart soldiers? Do we understand the need to protect supply lines? Do we have the will to do so? Are we smart enough to understand that the safest most secure supply lines are SHORT supply lines?

### **Maine, Vermont, Massachusetts: Our Neighbors as Support**

New Hampshire is fortunate in having, as its immediate neighbors, Maine, Vermont and Massachusetts. These neighbors' efforts since the late 1980s laid a foundation from which New Hampshire may gain valuable knowledge for not only a sustainable agriculture but also for a far more resilient form of agriculture. The contributions of Maine and Vermont have already been described. But let us not forget the Bay State.

MASSACHUSETTS has contributed to New Hampshire in particular the invaluable tool of the Town Agricultural Commission (AgCom), which New Hampshire has wholeheartedly accepted. Massachusetts, as always, serves as a prime market for the product of New Hampshire land and New Hampshire food craftsmanship. Local food production and processing and crafting is no exception. Boston and other Massachusetts cities are now leading the way in urban agriculture, importantly through the Boston zoning code's new and comprehensive Article 89 which establishes the place of urban agriculture in the society of the Hub City. In this action Boston sends the region an important message about food security. Who would have thought that New England's largest city could teach rural New England a thing or two about agriculture, about food production?

### **Freedom to Farm and Our Right to Food**

Do we have a right to food? Do we have a right to feed ourselves? Are we free to farm? The rights of small-scale farm owners are being encroached upon by industrial agriculture because of laws

### **A QUESTION OF SCALE AND PATTERN**

As Joel Salatin so clearly describes in his book, *"Everything I Want to Do is Illegal,"* there is an obvious need for a food inspection system geared to small-scale operations. This system should be separate from the system in place today and involve personnel who are philosophically attuned to and understand the needs and realities of small-scale agriculture. The current system now in place cannot fulfill this task well.

Likewise, the land grant universities can take a message from Salatin's book: Be sure to serve small-scale farmers and do so by research, demonstration and teaching of systems which are appropriate, realistic and affordable for small-scale farmers. This is an especially important message for New England land grants, due to the geographical, ecological, economic and cultural realities of the region they serve. This, too, is a constant message of Wendell Berry: scale is important, as is teaching in service to the patterns that exist.

### **The Right to Food**

The people of my town (Durham, New Hampshire), as people anywhere, have a right to food. This includes the right to produce their own food, for themselves and for their neighbors in their community. The government of my town, as government everywhere, has an obligation to protect that right. And my town, which has a Town Agricultural Commission established under New Hampshire state statute, has a further obligation, through the formal mission of that commission, to advocate for and encourage the utilization of that right, wherever and whenever desired.

and regulations that favor large-scale industrial agriculture, factory farming, and which present obstacles to small-scale farmers. Countering this trend, Olivier DeShutter, UN Special Rapporteur on the Right to Food, recently presented an address at Tufts University in Boston, in which he expressed that all persons have a right to food, a right based on the 1948 Universal Declaration of Human Rights. This declaration was submitted by the U.S. Delegation to the UN and written by Delegation Chair Eleanor Roosevelt. It was implemented in that year, having been signed by most member nations. It naturally follows that all persons have a right to produce food to feed themselves and to feed their neighbors in their community, a right now being inscribed in some New Hampshire Town Master Plans.

And, according to Olivier DeShutter, there must

be enough food in any particular region to feed the people in that region. And governments have an obligation to fulfill that right to food. We need to transition away from a centralized industrial food system and towards re-localized food systems and sustainable modes of production and consumption, says DeShutter, with particular attention to agroecology, the practice of sustainable agriculture. The people of all communities in New Hampshire have this right, and the state has an obligation to protect that right, for food is, indeed, a right that we are commissioned to protect. It naturally follows that we have a right to farm to the extent we have access to land to do so.

We have, and indeed we should have, a right to farm. If we consider local food as important in our future, and James Howard Kunstler tells us it is necessary if we are to have a future, then we must remove the existing obstacles to local farming and food production. This, too, is a conclusion one can reach from the experience of farmer-philosopher Joel Salatin, as recorded in his many books which are widely read in the young New Hampshire agricultural community. Among the needs would be state legislation and local government ordinances which eliminate obstacles to the production of local food, the provision of such food being far more important and fundamental than the intent of many of the existing 1960s era restrictive ordinances, given the new energy reality and the impingement on food supplies from more distant places. Food security and the ability to produce food locally so as to embrace food security is of fundamental importance in the era of challenges ahead. Likewise, legislation and ordinances that remove obstacles to energy conservation are crucial. (An example that comes to mind is a local ordinance which precludes prohibitions on hanging clothes out to dry, given the great energy savings in reducing clothes dryer usage. The way for society

### **Six Dogs, Two Bantams**

Indicative of how far we have become removed from agrarian culture: A local household in our town containing two quite small bantam chickens was cited for violation of the zoning ordinance while the house next door, containing six very loud barking dogs, was immune from prosecution. The bantams had no impact on anyone in the neighborhood or off the property (and provide a nutritional value to people in the form of eggs). The barking dogs had substantial impact on all the neighbors. We seem to have lost all common sense.

### **The Love Story of an Urban Farmer in a New England City**

"I learned to love this country through farming. I grew up with what I think is a typical American cynicism in a post- 9/11 world. When my seventh grade class was learning about civics, it seemed that the Founding Fathers ideals were obscured by the degradation of the environment, the moral opacity I saw in my government, and what looked to me less like cultural diversity than cultural confusion and discordance. So, in this cynical time, the question of patriotism was a difficult one to answer. Ultimately, I found it not in the Constitution, or our nation's political ideals, but in the land itself. I learned to love this country on the farm. I learned to love this country as I dug my shovel into its dark earth. I sewed seeds into my country, and harvested the abundances that grew from it. My stewardship of land is my greatest act of patriotism.

I learned to love my city by digging into it too. My vacant lot farm produced lead-poisoned weeds last season, but I love my city so much that I excavated the contaminated soil, and brought in compost, and now my neighbors eat tomatoes grown in their back yards. My city isn't always lovable. It is dirty, and my neighborhood is peppered with abandoned houses, sometimes with their contents pouring out the doors as if blown by a powerful wind: mattresses, broken shelves, and clothing litter front steps and streets. The 'for sale' sign in a vacant lot can read like a dark joke, and sometimes it feels crazy to invest in this space. But it is also a crucial labor of love. In occupying unwanted city land, and cleaning, and planting it, we have shown our neighbors what it means to us to love our city. It means making it beautiful, productive, and alive.

I especially love my farm, even though it is small, and used to have poisonous soil. Still I love the land, this land, as ardently as one who calls herself a patriot. I have given to the ground, and it gives back to me. I depend on its fertility, and so I put down roots and invest. I love my tools so I keep them clean. I love my seeds so I keep them dry. I love my sisters, so we keep each other well-fed and strong. Farming is a vocation of care, and from it is born an expansive love: for my country, for New England, for the people who grow food in situations very much like mine, or very different, and for the people in all of our communities who are sustained by our work."



Tess Brown-Lavoie, Sidewalk Ends Farm, Providence, Rhode Island



to address this issue is not to establish rules specific to outdoor clothes drying but to take a broader all-encompassing view which establishes rules eliminating any obstacles to energy conservation itself, effectively eliminating prohibitions to hanging out laundry.)

Thus, applying this thinking to food, as we must, any obstacles to “Victory Gardens,” including such on front lawns, would be eliminated, as would be any obstacles to local farmers markets, to local food production and processing as a home-based cottage industry, on allowance for livestock, especially poultry, in residential districts, and so forth. Prioritizing local agriculture, defined as locally produced food for local consumption, is as critical as prioritizing serious fossil fuel reduction and energy conservation in the new reality. All of these things will come to be when re-localization and the necessity for same is taken seriously, and there is a major reduction in things from “away.”

### **The Real Issues**

The deliberation of my Town Planning Board in the matter of chickens and the zoning ordinance, a deliberation occurring these days in many local planning boards around the country, focused in my town, as elsewhere, on conventional zoning matters so familiar to planning and zoning boards: noise, odor, setbacks, appearance of fencing and chicken coops, and other such matters, all of which are in the “comfort zone” of such local planning boards. But adhering to that comfort zone forces the board to focus on matters of little or no consequence and avoid matters of true consequence, the “real issues.” A real issue is identified by the question, “How quickly can a system, a food system, crumble under pressure”? Our national food system has already largely collapsed in its ability – now inability – to provide us nutrition, even though it still fills our bellies at the cost of disease and a shortened lifespan now facing the younger generation. Another real issue ignored by planning and zoning boards is the appalling disconnect between our young people and nature, a disconnect which will not serve them well in their lives. This matter should be of some moment to the parents and grandparents who themselves sit on planning boards. Worrying about children being attacked by poultry (an actual issue of discussion in our own planning board) should be replaced by a much bigger worry: Will our children be sustainable? And can they be sustainable if they don’t know where their food comes from? We seem to have a long way to go.

With the advent of “Granite State Farm to Plate” in the New Hampshire legislature (Senate Bill 141), we in New Hampshire are beginning the process of freeing our farmers and, as well, the small business entrepreneurs making their living from local New Hampshire farm products. Specifically, the bill provides a declaration of state policy “to encourage and support local food producers, farming, and fisheries including businesses engaged in agriculture, the raising and care of livestock, dairy, fishing, foraging, and aquaculture, and the associated local and regional businesses that process, purchase, distribute, and sell such food throughout the state.” In recognizing local food and farming as economic development, the bill seeks to facilitate local agriculture in all its forms “by harmonizing local and state law and removing obstacles and excessive financial burdens to farms and associated businesses, including farmers markets, cooperatives, food hubs, fisheries, and processing centers.” This is New Hampshire’s own farm bill, or perhaps better its “freedom to farm bill,” and follows the spirit of deeply held and centuries old New Hampshire traditions. This bill (now RSA 425:2a), together with New Hampshire’s long-established and very encompassing state definition of agriculture (RSA 21:34-a) should be all a community needs to progress toward successful local agriculture.

As we have seen, we are witnessing a revolution at the grass roots here in New England. And, at the core of that revolution is local food and farming. “Granite State Farm to Plate,” as is Vermont Farm to Plate in that state, as are similar local food policy efforts in Maine, Massachusetts and Rhode Island, represents an important approval and directive to better facilitate that new and very necessary alteration in the way we live, in the way we eat.

Just as food prices and food scarcity have become a powerful force for revolution in the Middle East and elsewhere in the world, so too local food production and the desire for food independence are becoming a force for revolutionary change (and resultant food security) here in New England and the Northeast. With more and more food now being produced in our cities, including Boston with its new zoning code, in our towns, in our countryside, in our gardens and in our backyard farms, we are witnessing a revolution in progress, giving credence to Wendell Berry’s remark, “Gardening is a revolutionary act.” So, too, are the new systems to support local agriculture, from farmers markets big and small in all seasons, CSAs, (and, in our coastal areas, CSFs), school, college and other institutional contracts with our farmers, growing supplies of locally-sourced food in our grocery stores, sales of seeds and gardening supplies to home gardeners and livestock fencing to backyard farmers, more and more compost production in our towns, and in many other ways.

## Food Security

Concern is rising that we are increasingly food insecure. What message is conveyed by a serious meeting of UNH agriculture, food and nutrition researchers all focused on the question, How much food – meat, dairy, fruit, vegetables, grains – can New Hampshire and New England provide for themselves? What is the upper limit? Where and under what circumstances can it be produced and processed? And how soon? Such meetings started at a UNH Retreat Center in June, 2013. There have since been other such meetings at UNH and around the region. Academia is asking these questions.

What message is conveyed when a region’s largest city, Boston, encourages a whole new article in its municipal zoning ordinance to establish a serious place for agriculture and food production, both commercial and residential, within city limits? And when our region’s largest city encourages

### New Hampshire Alone

According to the UMass report, *Agriculture’s Hold on the Commonwealth*, New Hampshire is the only one of the New England states that does not produce at least one food product in surplus. “Aggregate self-sufficiency for the food groups important to New England producers has improved since 1975 for all states except New Hampshire. New Hampshire has experienced continued rapid population growth... This increased consumer demand has resulted in a loss of self-sufficiency in New Hampshire. New Hampshire is the only New England state to experience such a loss in the last 40 years.”

Food Self-Sufficiency in the New England States, 1975-1997, by David Holm, Richard Rogers and Daniel Lass (Amherst, Massachusetts: UMass-Amherst, 1997, in *Agriculture’s Hold on the Commonwealth*)

“The role of the government in agriculture is to get out of the way for human creativity, and to remove the policy barriers.”

Allan Savory

residents and businesses to engage in and to invest in agriculture at both garden and farm levels? And gives a major municipal entity, the Boston Redevelopment Authority, oversight responsibility?

All of our food in New Hampshire other than that which is locally produced comes through Boston and other major regional cities before it gets to New Hampshire outlets. This entails over 90% of the total of the food we eat. If imported food, food from away, is becoming less marketable in the larger population centers, it cannot be available for New Hampshire towns and cities.

### Homeland Security

“In my view, homeland security derives from having enough potatoes.”

New Hampshire Resources and Economic Development Commissioner George Gilman

So, is there a message related to New Hampshire food security in either of these recent actions?

## *Our Land Grant University as Servant and Partner*

Our land grants are the peoples’ universities. The land grant universities and their colleges of agriculture constitute teaching, research and service support, vital infrastructure you might say, for local food and farming. *Pastures of Plenty* and *The Real Dirt* give significant attention to the importance of New England’s Land Grant Universities, among which UNH is New Hampshire’s land grant. America’s land grant university colleges of agriculture are not the only sources of agricultural education, agricultural research and agricultural demonstration in our country. By no means. But their operational existence is critical to agriculture, and critical to agriculture in every local place, in every state, even in every county. Their work and heritage since the 1870s, their teaching, their





research, their university experimental farms, their laboratories and libraries, their infrastructure, their knowledge and expertise, and the dissemination of that knowledge and expertise, is not replaceable by any other institution in the nation or the state. And their service to the public as the peoples' universities is unique to them. They have occupied a central place in that support for a century and a half.

"On nutrition: A 100% pre-1940 USDA average is a good goal."

Dan Kittredge

We need to understand that our food cannot continue to come from China, from Latin America, from California, from Texas, from the Great Plains, but, in fact, must come more and more from the Northeast, from New England, and, indeed, from New Hampshire itself. It must come from our counties and towns, even from our cities. If we understand anything at all about oil, energy, carbon emissions, and even about economics, we know this to be true. There is no institution in New Hampshire that can better serve the food needs of the people of New Hampshire than UNH. (Even New Hampshire's single largest restaurant – UNH's Holloway Commons – is on campus.) Given the direct link between nutrition and health, we need to understand the connection between the work of the land grant university college of agriculture and the food security of our children and grandchildren, and even to understand the opportunity for basic health of our offspring.

The UNH College of Agriculture has served the people of New Hampshire from 1873 to 1893 from Hanover and, since 1893, from Durham. Initially, this one college constituted the entirety of UNH. It has been both witness to and a participant in the growth and success of New England agriculture in earlier decades, the decline of that agriculture in more recent decades, and the renaissance of New England agriculture which we are witnessing today. As demand for local food and farming rises, and as food from more distant areas, in many ways nutritionally failed and sometimes contaminated food from away, declines in demand (and eventually in supply), and further as peoples' trust in food from away weakens, we become ever more reliant on food from nearby, food from our own farms and gardens, including backyard farms and market gardens. We thus cannot afford to ignore the promise and the many capabilities of UNH for assistance in such in-state and local food production.

### **The Agricultural Capital of New Hampshire**

Durham and its neighboring towns of Lee and Madbury can be said to constitute the "Agricultural Capital of New Hampshire." These three towns alone are host to most of the agricultural research conducted in the 130 year history of agricultural research in New Hampshire. Most of New Hampshire's agricultural researchers for well over a century have lived and worked in these three towns, towns which host New Hampshire's Agricultural Experiment Station as well as all seven of UNH's university farms, not to mention state headquarters of the USDA's Natural Resources Conservation Service (NRCS), a US Forest Service Research Laboratory, two premier town agricultural commissions (Durham and Lee), and the preponderance of agricultural education and agricultural research in the state conducted through UNH's two agricultural schools, the College of Life Sciences and Agriculture and the Thompson School. For further detail, see the *Durham Town Master Plan*, 2014 edition, the *Guide to the Farms of Lee* (2013), and Walter Collins' *History of the New Hampshire Agricultural Experiment Station, 1887-1987*. With the selection of Durham by President Obama and the Secretary of Agriculture as a "climate hub" to help agriculture, farming and rural communities in the Northeast to weather the strains of climate change, Durham has truly been reinforced as the "Capital of Agriculture in New Hampshire"!

It has become fashionable for American colleges and universities to speak of an area broader than their own campus boundaries as their “campus,” whether that be the city in which they are located, or perhaps, based on extensive overseas exchange programs, the entire world. Often such a claim is made in order to lure students to enroll. But each land grant university can legitimately claim its own state as its campus. The land grant is just as much in service to the people of the state, and to the local communities within the state, as it is in service to its enrolled students. The traditional face of this state-wide presence since 1914 has been the Cooperative Extension System and its cadre of agricultural and other food and land-related “agents” or “educators,” importantly at county level as well as on-campus. Although years of budget-cutting have reduced the actual presence of such university personnel in the counties and regions of the state, the land grant university mission to directly serve the people of the state, all the people, and not just enrolled students, remains. As does the notion that the land grant university is owned by and is designed to serve all those who reside in the state, and not just tuition-paying students. With that mission, with that service obligation, and with that heritage in food and farming, *in-state food security becomes central to the mission and role of the land grant institution.*

## **A Primer on the Peoples’ Agricultural University in New Hampshire**

It could be said the university farms and agriculture anchor UNH. In this time of renewal of agriculture at UNH, and at other land grants as well, we should ask the question, “What does anchor UNH”? UNH’s distinguished Extension Professor Emeritus, John Porter of Boscawen, Extension Dairy Specialist in New Hampshire and author of *The History and Economics of the New Hampshire Dairy Industry (UNH Cooperative Extension, 2007)*, a career Agricultural Extension Dairy Agent/Educator, and himself of a Merrimack County farm family, helped me answer that question when he brought to my attention the USDA Yearbook of Agriculture of 1865. This book was published when USDA was only three years old and three years as well after the signing of the federal Land Grant Act of 1862, the act which gave birth to UNH. The book was written while Lincoln still lived. That 1865 edition, the beginning of a long series of USDA Yearbooks extending to 1992, contains a chapter by Dr. Henry French, President of the Massachusetts Agricultural College (now UMass), an article entitled “Colleges of Agriculture.” That article contains what is likely the first published reference to UNH, written eight years before UNH’s founding as the New Hampshire Agricultural College at Hanover in 1873. (The College did not come to Durham until 1893, after which the four other UNH colleges were established.)

In that 1865 USDA Yearbook of Agriculture, the mission and the intention of UNH are clearly set forth:

“The general object and character of the colleges to be established ... is to teach such branches of learning as are related to agriculture and the mechanic arts ... to provide colleges for the benefit of agriculture and the mechanic arts ... All learning may be said to





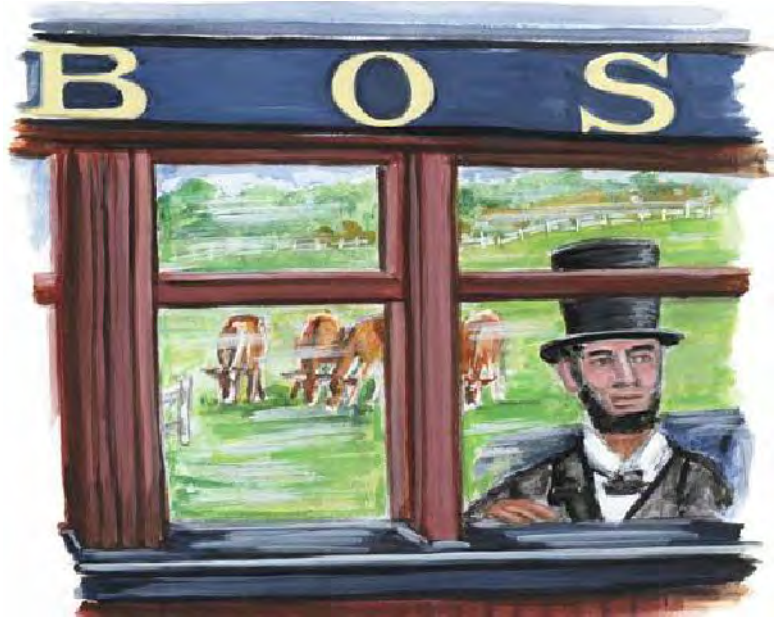




benefit agriculture and the mechanic arts ... but the colleges maintained by the grant of Congress are required to be distinctively and ESSENTIALLY (emphasis added) of this character. It is therefore a fraud on the act for a state to transfer the bounty of Congress ... without requiring them ... to establish a regular course of study in such branches of learning as are distinctively related to agriculture and mechanic arts ...”

He further noted that a liberal as well as a practical education is to be provided for (thus providing credence for UNH’s College of Liberal Arts).

UNH has carried out this mandate since its inception and continues to do so today. And the university farmlands and the infrastructure upon them, recently much threatened, are a necessary foundation for carrying out this mandate. To recognize the on-campus farmlands and their infrastructure for what they are, the anchor of UNH, is to recognize what UNH has been, is, and is meant to be. And it is to recognize what UNH can become as an active player helping to keep New Hampshire farms healthy and New Hampshire food on the table.



UNH was thus conceived while Lincoln lived and was born only eight years after his time. Honest Abe was no stranger to nearby Exeter (where his son attended Phillips Exeter Academy), had good friends in Dover (the Hales), and passed through Durham Station on the train, perhaps even glancing out the window at Ben Thompson’s farm, the future UNH campus - undoubtedly with a twinkle in his eye! (For a history of the New Hampshire Agricultural Experiment Station, see *A History of the New Hampshire Agricultural Experiment Station, 1887-1987*, by W. M. Collins, NHAES Station Bulletin #529.)

## **Sustainable Agriculture and the Land Grant University Curricula**

The University of New Hampshire, our state’s land grant university and the home of its only college of agriculture, is well situated to be a significant part of the leadership of the agrarian-based relocalization movement in the Granite State. This is especially true of its unique grass-based organic and teaching and research dairy, its fully provisioned conventional tie stall confinement dairy (enabling a unique form of comparative research); its new degree programs in sustainable agriculture, in integrated



agriculture management, in culinary arts, and in ecogastronomy, the latter a melding of food production, food business systems, nutrition, and the culinary arts and hospitality industry; its developing new major in sustainability; and a dynamic young faculty of new hires in the fields of agroecology and ecological systems.

Today, perhaps too few, even at UNH itself, realize that UNH's College of Agriculture (officially called the College of Life Sciences and Agriculture) is UNH's original college, its first college, and very much the reason for the existence of the university. The College of Engineering and Physical Science, at first called Mechanical Arts, was the second of the five schools and colleges, followed by Liberal Arts, and thence the two newcomers, the College of Business and Economics, and the School of Health Studies. Today, COLSA, together with the two-year Thompson School of Applied Science (founded in 1895, initially as the Applied Farming Course, and originally called the Thompson School of Applied Agriculture), with their university farms and agricultural infrastructure, command the agricultural presence, the agricultural role, at New Hampshire's land grant university.

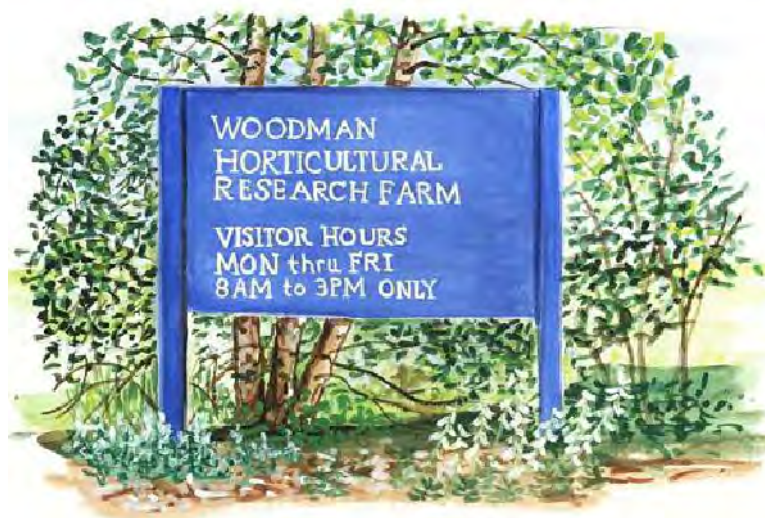
In 1893, after moving from Dartmouth College at Hanover, UNH enjoyed the largesse of an important seacoast farmer, Ben Thompson (for whom Thompson Hall and the Thompson School are named – his memorial stands before James Hall), and the new college received rich agricultural land on the fertile soils of southeastern New Hampshire at Durham, once our state's premier grain-growing region. Nearly all the present campus in Durham was fertile crop and pasture land in this relatively flat coastal plain farming region, the envy of the rest of our hilly, rocky Granite State. In the early 20<sup>th</sup> century the renowned Campus Architect and Professor of Architecture, Eric Huddleston, performed wonders in building and landscape design which gave UNH much of the campus aesthetic character that we so enjoy today. Indeed, Durham's role is so central in New Hampshire's agricultural history, and in its present agenda of agricultural research and teaching, and in its recent designation by Executive Order of President Barack Obama as the northeastern U.S. headquarters of a "climate change hub" for the study of agricultural and rural response to climate change adaptation, that Durham truly deserves the title "Agricultural Capital of New Hampshire."

Following two decades of agricultural research and teaching productivity in Hanover, UNH enjoyed a strong role in all aspects of plant and

### Bill McKibben on Intensive Rotational Grazing

"Done right, some studies suggest, this method of raising cattle could put much of the atmosphere's oversupply of greenhouse gases back in the soil inside half a century. That means shifting from feedlot farming to rotational grazing is one of the few changes we could make that's on the same scale as the problem of global warming."

Bill McKibben, "The Only Way to Have a Cow," *Orion Magazine*, March/April, 2010.





### **The Wisdom of Commissioner Gilman on New Hampshire's Investment in Public Lands and Conservation Easements**

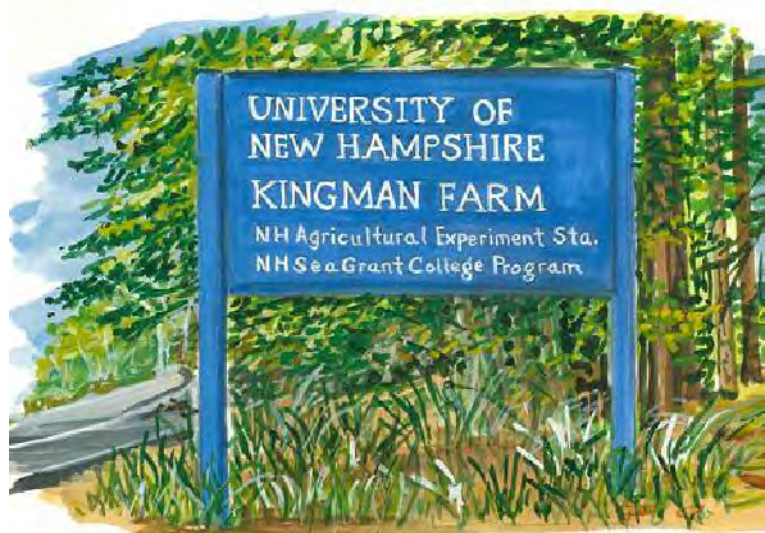
“As property owners, residents and workers, we received a valuable investment from the past, which, once expended, cannot be replaced. We can use it carefully and with restraint or we can squander it – but we can never really own it. We merely have it in trust for a time to use as wisely as we can and then pass it on. Those who follow us will inherit from us those things, tangible, and intangible, that they receive from us.”

New Hampshire DRED Commissioner  
George Gilman, Public Servant of New  
Hampshire

animal agriculture from its arrival in Durham in 1893, sponsoring a strong New Hampshire Agricultural Experiment Station (now 125 years old, and with a primary mission of increasing New Hampshire farm production), and a strong Cooperative Extension Service education and outreach presence in Durham and in each of the ten New Hampshire counties. Stability and progress were characteristic, with both Deans and Professors of Agriculture often serving very long tenures. Examples include agronomist/pasture specialist Ford Prince, who taught, researched and published at UNH from 1918 to the early 1960s; Harry Keener, livestock researcher who served as Dean of the College of Agriculture for over two decades; and, contemporarily, Prof. Brent Loy who has been serving the College and the state as a vegetable crops breeding specialist for 45 years.

But, as in the rest of the region, agriculture, and the agrarian way of knowing, began a near half century of decline starting about 1960. That year was also the time of the “zero-grazing” movement and the remarkably sudden and precipitous decline in New Hampshire’s vital agricultural standby, grazing/grass farming, as animal confinement quickly replaced grazing at the beginning of the era of truly cheap oil. Additionally in this pre-ecological and pre-ecosystems era, there developed a misplaced focus on agriculture as only a science rather than what it is, both a science and an art. (Wendell Berry says agriculture is an art before it is a science. Berry’s thought is today much present in UNH classrooms.)

For decades in the mid and late 20<sup>th</sup> century, the blind assumption was made that food could forever come from somewhere else and, somehow, we would never have to feed ourselves again. In recent years, with steadily rising oil prices, an increasingly uncertain and unpredictable economy, and with a much better understanding of ecology and ecosystems science, that decades-long decline in farms, in farming, in local food production, and in agrarian ways, has been stemmed and reversed. I estimate the farm bottom to have been 1995, at least in terms of actual farming effort, which suggests that we are now twenty years into the growth spiral of a return of New Hampshire agriculture and a concomitant elevation of its place in our consciousness.





### **The Wisdom of Miguel Altieri**

“The concept of food sovereignty constitutes the only viable alternative to the current and collapsing global food system which failed in its assumptions that international trade was the key to solving the world’s food problem. Food sovereignty focuses on closed local circuits of production and consumption and community action for access to land, water, agrobiodiversity, etc., which are of central importance for communities to control in order to be able to produce food locally with agroecological methods. There is no doubt that an alliance between farmers and consumers is of strategic importance.”

“Small diversified farms can produce from two to ten times more per unit area than do larger corporate farms.”

“Buying food at local farmers markets will support the type of beyond- peak oil agriculture that is urgently needed, while buying food in supermarkets perpetuates an unsustainable agricultural path.”

“The speed with which changes must be implemented is so great that a major question arises: Can we gather the political will to radically transform our food system before hunger and food insecurity reach planetary and irreversible levels”?

(From “*Mobilizing to Take Back Our Food Systems in the Post-Peak Oil Era*” by Miguel Altieri)

The controversy at UNH over the recently proposed Campus Master Plan is a sign of the rise of the new agrarianism and the death-throes of its arch rival, land conversion to a supposedly “higher” non-agrarian purpose. When the UNH sheep barns and pastures were destroyed in the late 1970s to make way for the campus’ largest parking lot, there was opposition, but its voice was more like a whimper, and quite ineffective. A little earlier, when the UNH poultry facilities were sacrificed for a host of service buildings (most recently the Leavitt Center) and another large parking lot, this was accepted more or less as simply a sign of changing times. (Ironically, it was these lands, on the south side of Main Street, that supported the development of the famous poultry breed known as the New Hampshire Red, a breed which earned a fortune for one New Hampshire family of UNH alumni, the Hubbards. Some of that fortune later returned to UNH as the largest private donation to that date in the history of the university, funding the establishment of both the UNH Marine Program and the UNH Sustainability Program.) The loss of these lands was a significant loss for UNH agriculture, not to mention New Hampshire agriculture. But they occurred without serious opposition because of a false assumption we’d never need to worry about feeding ourselves again. (Wendell Berry has cautioned “Don’t ever believe that famine can’t happen here.”)

**“As God is my witness, I’ll never be hungry again”!**

Vivien Leigh as Scarlett O’Hara in  
“Gone With the Wind”

Both the timing and the circumstances of recent misguided attempts to further reduce agriculture at UNH differ from earlier experiences. Agrarianism has caught the imagination of the people, both on and off campus, and agrarian wrath has predictably now emerged. For not the first time in U.S.

history, Jefferson's agrarianism is on the rise among the American people. The desire to protect UNH's last remaining on-campus farmlands and farm infrastructure, that which is physically closest and most accessible to the students, has swelled, with the realization that dairy land, cropland, the famous Campus Community Organic Gardens, the entire Equine Program and its facilities and pastures, and the whole array of McFarlane Greenhouses were in danger. (The Dean of COLSA at one point frustratingly asked "Will the College Woods be next"? College Woods, Ben Thompson's original 230 acre farm woodlot of old growth timber, and partly now a designated but legally still unprotected natural area, is viewed as sacrosanct in many quarters, but still very vulnerable to destruction.)

The 2012 UNH campus farmlands' experience is a sign that daily we are beginning to see New Hampshire as a different place, once again a more agrarian place, and a producer of our sustenance. The new Campus Master Plan ultimately emanating from that debacle points to a brighter agrarian future and signifies a greater university ability to assist New Hampshire's food and agricultural needs in the future.

Nationwide, land grant university curricula in agriculture, for the most part adhering to the paradigm of industrial agriculture and supportive of "factory farming," have had their budgets pummeled and have seriously eroded in the past decade or so. Enrollment of conventional agricultural majors has been in decline for some time (until quite recently), paralleling the decline of general agriculture itself and the antipathy toward agriculture maintained in the popular psyche. It is certainly not illogical that agricultural curricula should decline at a time of general agricultural malaise and the disappearance of farms. On the land grant campuses, attention (and budgets) in recent decades have shifted to biotechnology and genetic engineering, in other words, to applied molecular biology, rather than to farming. Such focus on biotechnology/molecular biology has drained the budgets of agriculture colleges, given its great demand for capital to support very capital-intensive scientific research, expensive laboratories, and expensive science faculties. As conventional agricultural scientists (including soil and crop scientists, animal husbandry specialists, farm management and rural development personnel) retire, they are rarely replaced by representatives of their own fields but rather by scientists working at the sub-organismic level, molecular biologists, along with supporting computer and laboratory technologists. Colleges of Agriculture have significantly begun to become Colleges of Life Sciences. As well, the line between human medicine and agricultural biology has blurred. When the agricultural conference honoring Wendell Berry's agrarian thought was held in 2002 just ten miles north of the campus of the College of Agriculture of the University of Kentucky, it was attended by many



## Local Food in the Economy

When Professor Ross Gittel, then of the Whittemore School of Business and Economics (now Peter Paul College) at UNH, conducted his research to prepare a report on food and agriculture's role in the contemporary New Hampshire economy, he found it was not possible to learn a good deal about the economic role in New Hampshire of gardens and gardening for food production; about how much money changes hands at farmers markets; or about what CSAs represent as an economic component of local food and farming.

**On Gardens:** Virtually nothing is known about how much food is produced in gardens, whether home or kitchen gardens, community gardens, institutional gardens of various sorts (school, church, congregation, restaurant or company gardens); what that food is composed of; or where that food goes (consumed at home, bartered for goods or services, donated to food pantries, given away, sold, or, for that matter, left to "rot on the vine"). And there is certainly no way to obtain comprehensive accurate answers to any of these important questions.

**On Farmers Markets:** Most money changing hands at farmers markets is in the form of cash and is thus not measurable. Cash transactions mean no fees to banks, meaning that the full value accrues to the farmers and other vendors. People entering farmers markets likely have a much higher percentage of transactions than those entering shopping malls or engaging in general shopping. (And with the advent of winter farmers markets, with so many such markets occurring in otherwise unused commercial and retail greenhouse facilities, the New Hampshire plant nursery industry is receiving an unanticipated benefit through increased winter sales. But that agricultural aspect of regional economic development is measurable, as is the impact on the restaurant trade.)

**On CSAs:** CSAs come and go, but over the last decade they have been arriving likely much more rapidly than departing as their popularity increases. But no one knows how many CSAs are in existence, how many members they have, how much shareholders pay to the CSA (the figures vary greatly depending on the products offered), how much poundage of food is produced and/or delivered, what that food is comprised of (meat, vegetables, fruit, grain, dairy, specialty farm products such as maple syrup, honey, cheese, yogurt, even firewood, among other products), nor how much labor is provided to the CSA farm in return for provision of food to the members.

For all of these reasons pertinent to gardens, to farmers markets, and to CSAs, it is nearly impossible to get accurate or precise knowledge of the economic role of local agricultural production and consumption, nor the actual role that local food plays in the economy. I am confident, however, based on close observation, that this role is not inconsequential. And it is growing.

"The world is popping – stuff is happening, even though we don't hear about it."  
Julie Matthaei



college students. But they were all from liberal arts colleges across the South and Midwest, with not a single attendee from Kentucky's nearby land grant university, indicating a notable lack of interest in or identification with general agriculture or agricultural thought among the College of Agriculture students or their professors. This is equally the history at UNH as at other land grant universities and their colleges of agriculture in the region and across the nation.

"For the first time in human history, non-farm families are producing farmers"

Sharon Astyk

This disappearance of conventional agricultural identification among the land grants has opened the way for the development, at some of these schools, of modest but important sustainable agriculture degree programs or areas of concentration. Various called sustainable agriculture, ecological agriculture, or agroecology, occasionally by other names, these programs are holistic, ecologically inspired, and focused on significant reduction of inputs. They are also focused on biodiversity on the farm and economic diversity at the market end. (For insight into such programs and their origins at the Universities of Maine, Vermont, Wisconsin and Iowa State, see my book, *The Wisdom of Small Farms and Local Food*, New Hampshire Agricultural Experiment Station Publication #2260. As noted in that book, all of these programs are grounded in ecological thought and in a land ethic akin to that of Aldo Leopold.)

## Sustainable Agriculture Research Agendas at the Land Grants

Research agendas in the land grant university sustainable agriculture programs are modest in comparison to conventional agricultural research agendas which follow the industrial model. And they are certainly modest compared to ongoing biological sciences research in biotechnology and genetic engineering. This is related both to the very small research budgets and modest support funds available for this kind of work and, as well, to the significantly non-capital intensive nature of such research.



Research in sustainable agriculture tends somewhat away from the reductionistic natural science and social science models that one finds so dominant in conventional agricultural research. It is more open to holistic, integral, and ecologically grounded research models and to systems thinking. This research focuses on both biodiversity and economic diversity as an inherent good, the more the better. It is thus focused on polyculture and, like nature, rejects monoculture. It works with nature, never against nature. This research does not focus on output exclusively, or even necessarily

primarily, and places equal value, even greater value, on input, with reduction of input being an equal or even greater goal than maintenance of output. It's a minimalist model rather than a "productionist" model. It has a truly holistic view of efficiency and defines that word as the balance between input and output. Sustainable agriculture research also places great emphasis on externalities, on costs and benefits, and on non-market values, indeed far greater emphasis than is to be found in conventional or traditional agricultural research.

Among other topics, sustainable agriculture research focuses on:

- soil improvement/enhancement;
- composting of organic waste;
- crop rotation;
- intercropping;
- integrated pest management;
- soil erosion control;
- organic and biodynamic agricultural practices;
- intensive rotational grazing;
- human and animal nutrition, including human nutritional aspects of grass-fed livestock (meat and dairy);
- direct marketing of farm products;
- farmers markets;
- community-supported agriculture (CSAs);
- low energy input and low capital-intensive farm systems;
- integrated crop/livestock systems;
- on-farm biodiversity;
- beginner farmer programs;
- and on many related subjects.

"Fighting is out of style. We don't fight weeds, insects, disease. We make the plant healthy and it defends itself through its immunity."

Dan Kittredge



An examination of the actual research agendas of the land grant university sustainable agriculture programs will yield more specifics.

## **Sustainable Agriculture Extension Agendas at the Land Grants**

The original mission of the Extension Service (variously called Cooperative Extension or Agricultural Extension) is to take the results of land grant university research and bring it to the people on the land, the farmers and the residents of rural communities. Throughout the era of industrial agriculture at the land grants, Cooperative Extension carried that particular philosophical message to the farmers (sometimes alienating the farmer in the process as some Extension advice contributed to the economic downfall of some farmers). It is also the charge to Extension to carry the message of sustainable agricultural technique and practice to the farmer. Extension's work in sustainable agriculture reflects the research agendas already mentioned and some small linkage also exists between Extension and the instructional degree programs as well. Extension also plays a very significant role in the informal and adult education area with respect to sustainable agriculture, due to the fact that sustainable agriculture practice is far more accessible to the small-scale farmer and the general public than is conventional



or industrial agriculture. Perhaps the greatest value of Extension is its presence in and relationship to the counties and the sub-state regions it serves, for it has the ability to bring back to the center the message as to what is occurring at the grass roots. It reduces the blindness too often witnessed at any center of power.

In teaching, in research, in extension, New Hampshire has long been well served by its land grant university, UNH. Granite Staters need both invest in and steer UNH to continue serving Granite Staters and their food security, now more than ever.

### **“There is New Hampshire”**

“Why are we thinking of “here” when there is New Hampshire”? remarked poet Jane Kenyon to poet and New Hampshire son Donald Hall, as recorded by poet Wendell Berry of Kentucky in his 1998 essay, “Sweetness Preserved.”

## ***Elevating Agriculture in New Hampshire:***

### **Granite State Farm to Plate**

New Hampshire needs to convey a clear message to all Granite Staters and to the nation that the support of local food and farming, in all corners of the state wherever it might occur, and in whatever form it might take, is the declared policy of state government. Senate Bill (SB) 141, entitled “Granite State Farm to Plate,” which is now moving through the New Hampshire legislature, is the



embodiment and the vehicle of that policy declaration. SB 141 can be thought of as “New Hampshire’s Farm Bill.” The bill states “It is the policy of the State of New Hampshire ... to encourage and support local food producers, farming and fisheries including businesses engaged in agriculture, the raising and care of livestock, dairy, fishing, foraging and aquaculture, agri-tourism, and the associated local and regional businesses that process, purchase, distribute, and sell such food throughout the state.” With such official recognition by state government, New Hampshire farmers and those vital small businesses that add value through the further processing of the product of New Hampshire farms, will have an open path and an enhanced position with respect to local government, planning boards and commissions, school districts and state agencies, so as to grow and expand. The outcome can only mean significant growth in food production in the state in all five food categories: dairy, meat, vegetables, fruit and grains. And none too soon, as the present suppliers of over 90%



of all food now consumed in New Hampshire begin to fall away and that current supply of highly processed food becomes more expensive and less available. Keep an eye on SB 141, New Hampshire's "Farm Bill" as it might be called, to see our food future, for SB 141, Granite State Farm to Plate, is a testament to what a bill with no funding and no regulatory authority can do!

**"New Hampshire can feed itself."**

New Hampshire farmer Roger Noonan,  
President, New England Farmers Union

### **"The Only Game in Town"**

Andres Duany, father of the "New Urbanism" movement in city planning, reported in remarks to an MIT audience in Cambridge that "agriculture is the single most powerful thing that's happening now politically, even more than green - growing your own food and the health that emanates from

The greatest publically-owned infrastructure in New Hampshire to support the growth of local food and farming is to be found at the University of New Hampshire in its College of Life Sciences and Agriculture and its Thompson School, their labs and libraries, their seven university farms, their faculty, staff and students. It is up to all Granite Staters to insure that this public infrastructure which they own serves them well and helps them secure their own food security.

that, because it's much more human-centered...so the politics are much better." As such urban and regional food production rises in the Northeast, how long will it be before the movement of vast quantities of food into the Northeast, as we witness at present, will no longer be profitable? Since imported food represents over 75% of the food consumed in the Northeast region today, any threat to continued food import into the region is a threat to fundamental food security for all. Such a threat can only be alleviated through increased food production within the region itself, including maximization of local production in the region's

cities and towns. (Duany's remark actually complements the similar remark of Boston's Manny Costa, one of the largest food distributors in New England, that local food is the "only game in town," the only area of growth in his business.)

Just a day after Duany made those MIT remarks, across the Charles River in Boston, the Boston Globe reported that the City of Boston, with the help of the Trust for Public Land, is establishing two commercial farms on residential land in the Roxbury neighborhood, farms designed to provide a food supply for neighborhood and city residents.

That agriculture will return to the center of the American life in ways we could never imagine, James Howard Kunstler's extraordinary prediction appearing on the back cover of *Pastures of Plenty*, may not be so extraordinary after all. The future is now.

### **On Grace Before Meals**

"How do we get to grace? How do we get back to food we can be thankful for"?

Sharon Astyk

## ***Conclusion***

Each year in my UNH classes in ecological ethics and values, I require my students to visit local farmers markets. For the most part these markets are small mid-week affairs, the kind you would find in small towns, and nowadays as well in the neighborhoods of cities. Some of my students, looking

over these small farmers markets and surveying the scene, may wonder why they are there, what I'm expecting them to learn. Such markets may involve only 8-10 vendors, perhaps half of them actual farmers selling the food products of their own farms. (Other vendors may be local prepared foods purveyors, craftspeople, etc.). And there may or may not be many customers at the market, depending on the time of day the student visits. And some of the students may well wonder why this scene and their own presence in it is important. Of course, the students have much to learn in conversation with vendors, and with farmer-vendors in particular. And they should learn something from observation of the markets' customers as well. But what, they might ask, is so important about their own presence, their witness to this scene? The answer lies in the ubiquitous nature of what they are witnessing and perhaps participating in. By semester's end they are no longer asking this question for they then know, if they didn't already, that small and ubiquitous can indeed be powerful. And, for reasons of the circumstances of the world in which we live, a world recognizing limits to growth and even de-growth, that "small" and "ubiquitous" cannot only be powerful – it can be critical as well. When these same students witness larger weekend and particularly larger indoor winter farmers markets in towns and cities at participation rates as high as 3000 or more entrants to the market over a brief 4 hour period on a Saturday morning (the circumstance in our area), with virtually all of those people passing cash to the farmers and other vendors for purely local product, they then have a very clear picture of the importance not only of the direct marketing model of the farmers markets but of the importance as well as the magnitude of the agrarian revolution and their place in it. Small may be beautiful, as E. F. Schumacher wrote four decades ago, and small may now be critical, as reality

“To struggle for ecology is to also struggle for peace and justice, for our relationships with nature are inseparable from our relationships with each other.”

Richard Levins

already a clear sign that the people of the Granite State are now using the power they have at hand to both make a statement and effect change as New Hampshire and its million and a third residents move into a new epoch, a new reality.

While penning *Live Free and Farm*, I was not the only one in my family working on a food and farming project. Concurrently, my two daughters, one a documentary film maker, the other an author and historian, were producing independent works, now complete, which may also be of interest to the reader:

For insight into the experience of one young Granite State farm family, new farmers all, view the documentary film, *Brookford Almanac*, a cinema verite film by Cozette and Julian Russell, filmed in Rollinsford and Canterbury, New Hampshire over a three year span. Information on the film and a view of the trailer is available at: <http://brookfordalmanac.com>

For insight into the development of the American meal, how we came to eat as we do, see *Three Squares: The Invention of the American Meal* by Abigail Carroll (New York: Basic Books, 2013). A link to the book follows: <http://threesquaresbook.com>

appears to be teaching us, but small is also powerful, as powerful as the model of the garden depicted in Chapter 3 of *The Real Dirt*.

Individual freedom is also power, and the release of that power can itself be a powerful and most significant act. The enormous ubiquitousness and scale of participation in these farmers markets is

Only New Hampshire's own people, the people of the Granite State, can bring this about. It lies in their hands. Will some Granite Staters choose to farm, to garden, to produce food? Will the remaining Granite Staters support them? In other words, will Granite Staters choose to live free? If so, local food, locally produced, processed and prepared, is a fundamental ticket to that freedom, the very foundation of that freedom. The end product, in the words of UNH's Paul Bruns, is a New Hampshire Everlasting and Unfallen. And, in the words of James Howard Kunstler, agriculture may well return to the very center of the American, and the New Hampshire, way of life.

### Hunger

"Ain't nobody hungry yet – except dem that don't count!" But people are showing increasing hunger for, increasing desire for, real food, food that is both tasty and nutritious.





## APPENDIX TWO

# CONCORD MONITOR

Published on *Concord Monitor* (<http://www.concordmonitor.com>)

[Home](#) > Agricultural renaissance

MY TURN

## Agricultural renaissance

In New Hampshire, back to the future

By [John E. Carroll](#) / [For the Monitor](#)  
June 8, 2012

The recent rebellion of University of New Hampshire students against a university plan to destroy on-campus agricultural lands and facilities in favor of new buildings and parking lots, including retail business, is indicative of a revolution in attitudes toward agriculture in the Granite State.

The renaissance in agriculture in New Hampshire and elsewhere in New England over the past 15 years is becoming more visible as time goes by. Attendance at summer and winter farmers markets in places large and small has been extraordinary - attracting as many as 3,500 paying customers in four hours at the larger winter markets. Community-supported agriculture membership is growing. There is a phenomenal expansion of community, institutional and personal gardens. Workshops on grain-growing, bread-making, fruit-tree pruning, soil testing and chicken and pig rearing attract good crowds. Small-scale beef cattle production on niche pastures has taken root all over the state. This agricultural renaissance has morphed into a true revolution in local food and farming at the grassroots.

The demand by restaurants, schools, hospitals and retail groceries for local food, artisanal breads and micro-brew beer from local grains, local fruits and vegetables, local cheeses and meats of all sorts, is increasing demand for all kinds of local farm products.

Underlying all of this is a rising spirit of agrarianism in the youth of New Hampshire. I can attest to this in my own classes at UNH where I teach graduate students in their 30s and undergraduates ranging from 17 to their mid-20s. The younger the students, the more agrarian in outlook and thinking, women equal to men. The young increasingly know their farmers and are at home with farmers markets and all manner of direct purchase from farmers. They are more knowledgeable about livestock in the household, with serious production from the garden, including market gardens and backyard farms. And leadership is emerging from the 30-somethings in new farm and food associations, town agricultural commissions, farm-to-school, and eat-local organizations of all sorts.

That uprising at UNH involved the farmlands that gave state residents the famous "New Hampshire Red" chicken and much advancement in sheep, beef cattle, poultry, dairy, horsemanship, fruits, vegetables and all sorts of horticultural products, not to mention season extension and so much other agricultural technology. The students know that these lands are accessible to all students on campus and have been at the core of UNH's

land-grant agricultural mission of research, teaching and extension, and will perhaps bring about a return to the earlier tradition of feeding the campus. Their action is a sign of a new beginning of appreciation of and respect for agriculture among the younger generations of Granite Staters.

As popular New Hampshire writer Rebecca Rule commented to me, we are witnessing "the Old New Hampshire - new again!"

We can see it in the eyes of our youth.

***(John E. Carroll, professor of environmental conservation in the UNH College of Life Sciences and Agriculture, is the author of Pastures of Plenty and The Real Dirt, recent books on local food and farming in New England. He lives in Durham.)***

Source URL: <http://www.concordmonitor.com/article/334580/agricultural-renaissance>

# APPENDIX THREE



## New Hampshire Farms Network

- [Home](#)
- [About The Site](#)
- [From Farm To Kitchen](#)
- [Links](#)
- [Sitemap](#)
- [Submit Farm Profile](#)
- [Contact Us](#)

Search the site ...

### Farm Profiles

background and specialties of new hampshire farms

### Farm Women

the vital role of women in new hampshire farms

### NH Farm News

articles and related stories on nh agriculture

### Recipes

featuring new hampshire grown ingredients

### Seasonal Activities

current activities on new hampshire farms



[Home](#) » [Featured Story, Strafford County \(Rochester/Dover/Durham/Portsmouth Region\)](#)

## Agriculture in Turmoil at UNH: TRAGEDY AVOIDED

By Helen Brody (May 24, 2012)

by John E. Carroll, Professor of Environmental Conservation, University of New Hampshire, Durham, NH

Wendell Berry, a recipient of The National Humanities Medal, wrote:

*“Rather than trying to be nationally or globally prominent as a great research institution, if our university would meet its local responsibilities and really meet the needs of the land and the people of this state, it would be a city on a hill. Everybody would come here to find out what they’re doing and how they’re doing it, and what the results are.”*



In my 38 years as a member of the UNH College of Agriculture faculty, I have never seen a greater threat to who we are as a land-grant university, nor have I ever seen such disrespect for agriculture at UNH as the unbridled assault against agriculture which the university’s new Campus Master Plan represents.

This Spring (2012) a proposed Campus Master Plan was released which showed the loss of most of the on-campus farms, namely, all the land on both sides of Main Street from the railroad tracks/Dairy Bar all the way to the intersection with Rte. 4. This includes all the



Macfarlane greenhouses, the equine lands and facilities (horse barns and pastures), all of the forage croplands on both sides of Main Street, used to support the Fairchild Dairy and Research Center, and the destruction of the growing campus- community organic garden.

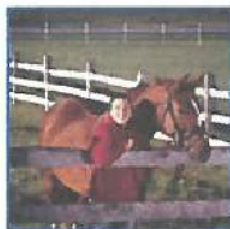
After a massive outpouring of opposition from students, faculty, UNH alumni, New Hampshire farmers, and area residents at two unscheduled overflow meetings, and two additional well-attended meetings the following week, the Campus Master Plan Committee appeared to compromise on their proposal by withdrawing the idea of retail business and parking lots on the most westerly of these lands.

But the university has now proposed to remove the McFarlane Greenhouses (above left) and all of the horse facilities and pastures,



converting that land to a “research park” with many buildings and parking lots. These agricultural facilities would be moved to the farther out lands which are currently being used to support both the Fairchild Dairy (right) as well as the agricultural research of professors and students - research designed to insure the future of New Hampshire farms and farmers.

The College of Agriculture is UNH’s original college and the core of its being as a land-grant university, an idea apparently forgotten by some in the UNH administration. This assault on agriculture at UNH comes at the very time that agriculture is experiencing a renaissance all over New Hampshire and New England. Never has this university farmland and associated facilities been more needed for food and agricultural teaching, research, and demonstration than it is today.




We in New Hampshire cannot afford to lose the position of agriculture at UNH if we are to have a food-secure future. Nor can we afford to turn our backs on the spirit of our great UNH benefactor, Benjamin Thompson, whose farmlands these were, and the commitment made to him by the founders of UNH to honor and respect agriculture on these lands.

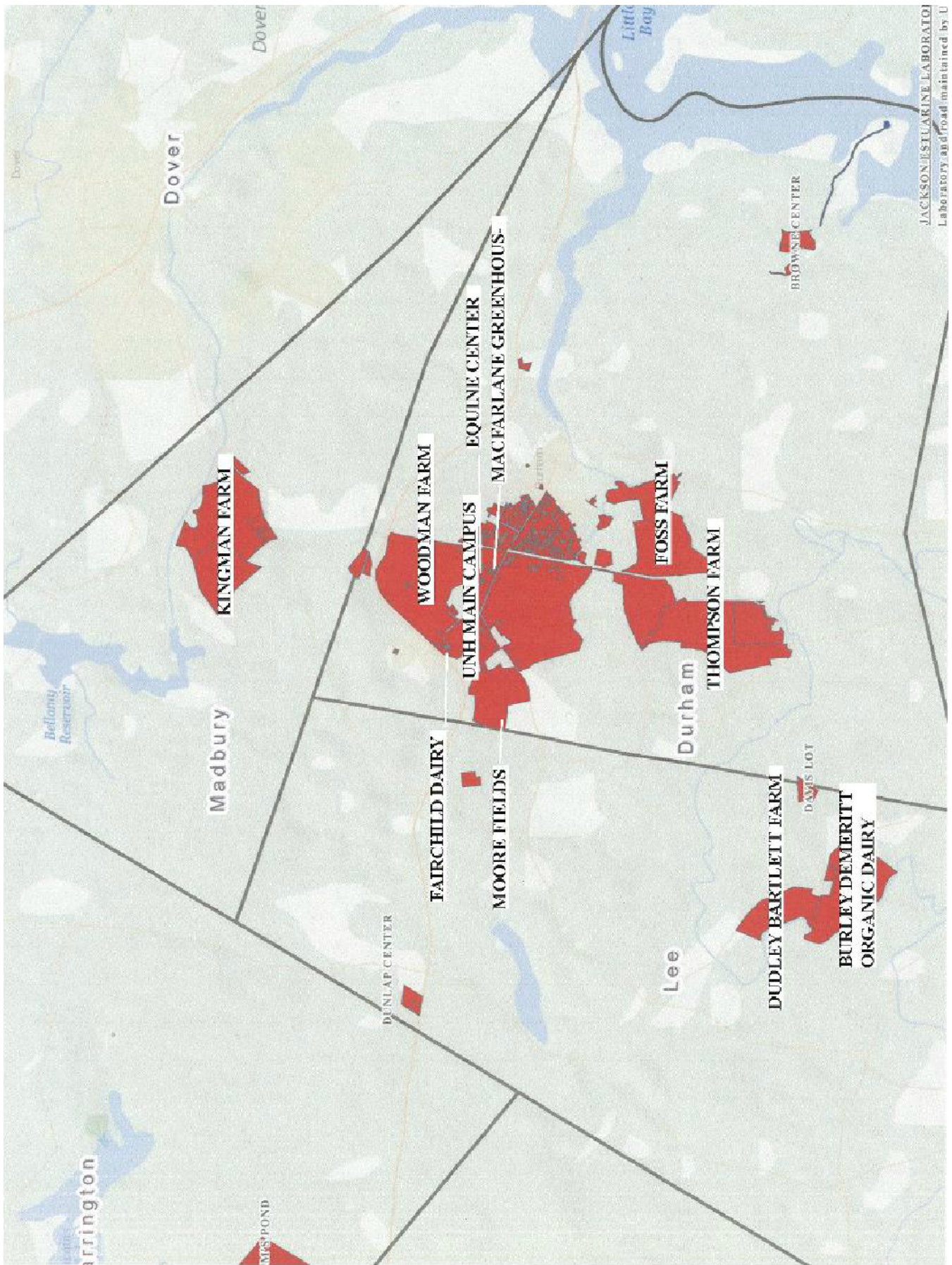
Our agriculture students, including all the newly enrolled in the new Sustainable Agriculture major, in the EcoGastronomy dual major, and in the new Thompson School agriculture program, need these lands and facilities. Our young research and teaching faculty in the College of Agriculture depend on these lands and facilities to be within close proximity for their research and their teaching, and indeed for a successful experience at UNH.

**John E. Carroll**, Professor of Environmental Conservation at the University of New Hampshire is the author of a UNH trilogy of books on agriculture in New England, *The Wisdom of Small Farms and Local Food* (2005), *Pastures of Plenty* (2008), and *The Real Dirt* (2010). He lives in Durham.

Photo credits: University of New Hampshire Photographic Services

Copyright © 2009 Helen Brody. All rights reserved. | [Subscribe to our RSS Feed](#) 

# APPENDIX FOUR





# APPENDIX FIVE

01/30/14 0051s  
23Apr2014... 1346h

2013 SESSION

13-0927  
08/03

SENATE BILL        ***141-FN***

AN ACT            establishing the Granite State farm to plate program.

SPONSORS:        Sen. Fuller Clark, Dist 21; Sen. Watters, Dist 4; Rep. Sad, Ches 1; Rep. Spang, Straf 6;  
Rep. Kaen, Straf 5; Rep. Bixby, Straf 17

COMMITTEE:      Executive Departments and Administration

---

## AMENDED ANALYSIS

This bill establishes the Granite State farm to plate food policy and principles.

-----

Explanation:     Matter added to current law appears in ***bold italics***.  
Matter removed from current law appears [~~in brackets and struckthrough.~~]  
Matter which is either (a) all new or (b) repealed and reenacted appears in regular type.



STATE OF NEW HAMPSHIRE

*In the Year of Our Lord Two Thousand Thirteen*

AN ACT                    establishing the Granite State farm to plate program.

*Be it Enacted by the Senate and House of Representatives in General Court convened:*

1 New Section; The Granite State Farm to Plate Food Policy and Principles. Amend RSA 425 by inserting after section 2 the following new section:

425:2-a The Granite State Farm to Plate Food Policy and Principles.

I. It is the policy of the state of New Hampshire through the department of agriculture, markets, and food and in conjunction with other state agencies to encourage and support local food producers, farming, and fisheries, including businesses engaged in agriculture, the raising and care of livestock, dairy, fishing, foraging, and aquaculture, agritourism, horticulture, orchard management, maple syrup production, and the associated local and regional businesses that process, purchase, distribute, and sell such food throughout the state.

II. State agencies, including the department of agriculture, markets, and food; the department of resources and economic development; the department of health and human services; the department of environmental services, the department of transportation, the department of education, the University of New Hampshire College of Life Sciences and Agriculture, and the University of New Hampshire Cooperative Extension shall strive for inter-agency cooperation as well as cooperation with public and private entities to foster local, state, and regional food systems that adhere to the Granite State farm to plate principles below:

(a) Agriculture in New Hampshire represents a vital part of both the state's rural and urban economies and the larger food systems that connect it with the state's local and regional economies and the public.

(b) Consumer demand from individuals and institutions, including New Hampshire public schools, universities, child care facilities, after-school programs, restaurants, hospitals, and prisons, for locally grown and produced food is growing and deserves support from the state and state agencies.

(c) Support of local food economies is vital to public health of our residents and to the viability and livability of our communities.

(d) Increased access to healthy food occurs when local and regional community-based food production, processing, aggregation, distribution, marketing, and retail work together to build markets for healthy food.

(e) New Hampshire citizens and communities face social and environmental health issues connected to food, hunger, malnutrition, incidences of obesity, heart disease, type 2 diabetes, and other chronic diseases. Increased access to local, healthy food is needed to address such multifaceted issues.

(f) Local and regional food economies are a vital source of employment in our communities. Promoting the growth of such local food economies will enhance economic development and job growth throughout the state.

(g) Economic development opportunities among New Hampshire's cities and towns are facilitated by state and local governments cooperating to remove obstacles and excessive financial burdens to farms and associated businesses, including farmers' markets, cooperatives, food hubs, fisheries, and processing centers.

(h) All levels of government shall consider the findings of the Farm Viability Task Force of 2006-2007 as well as consider advocating farmland preservation efforts that would permanently protect farmland with voluntary agricultural conservation easements that place priority on protection of agricultural resources and production to ensure our state's future capacity to produce food.

(i) The New Hampshire dairy industry is vital to the state's economy. It impacts state and local economies via millions of dollars in total economic output, thousands of jobs and millions more dollars in labor income. The dairy industry should be further supported through the Milk Producers Emergency Relief Fund as specified in RSA 184:107, and other methods that will encourage the success of the state's dairy industry.

(j) Federal governmental programs provide significant opportunities for the state to obtain federal funding that supports the development of local food systems, such as use of federal benefits at farmers' markets.

(k) Recognizing that a broad array of entities and organizations are already working together to promote New Hampshire local and regional food systems and participants, including agricultural producers, processors, distributors, and consumers, the input of such groups is vital to the construction of a more diverse and productive set of New Hampshire food systems.

III. To the extent possible, local governments shall consider the policy and principles of this section when adopting local law, or when enforcing existing law and regulation.

2 Effective Date. This act shall take effect upon its passage.

**SB 141-FN FISCAL NOTE**

AN ACT            establishing the Granite State farm to plate program.

**FISCAL IMPACT:**

The Department of Agriculture, Markets and Food states this bill, **as amended by the House (Amendment #2014-1346h)**, will have no fiscal impact on state, county and local expenditures or revenue.

**METHODOLOGY:**

The Department of Agriculture, Markets and Food states this bill establishes the granite state farm to plate food policy and principles. The Department states this bill will have no fiscal impact on state, county and local expenditures and revenue.



## ***APPENDIX SIX***

Remarks of John E. Carroll to the ASFS/AFHVS National Conference, University of Vermont, Burlington, Vermont, June, 2014:

### **WHO WILL FEED NEW HAMPSHIRE?**

This session of our Conference is entitled “Farmers and Identity”. The foundation of my paper and the larger publication to which it relates is the notion that the farmers of New Hampshire, the Granite State, as well as the state’s broader population, are relatively more libertarian than is the population norm in the United States. This includes both people who self-identify as libertarians and, as well, those who would never so identify but who instinctively behave that way, at least to some extent, in the environment of the Granite State, the land of “Live Free or Die”.

For many decades, since the advent of the Arab oil embargo of the early 1970s, I’ve been a student of oil. And, since 1990, I’ve followed closely the development of sustainable agriculture, ecological agriculture, organic agriculture, grass-based agriculture. My oil interests and my agricultural interests sit upon a foundation of and, one might say, are embedded in an ecological framework, a framework of ecological thought. Having taught, conducted research, written and spoken extensively at the University of New Hampshire in the state next door, I’m also embedded in New England reality, the history, geography, ecosystem and culture of this region, the region at the end of the line in terms of both energy and food supply streams.

For those with any doubts about peak oil or what lies ahead in terms of economic and lifestyle impacts, there are a host of highly credible peer-reviewed sources of information and insight available. In particular, most recently the University of Maryland study released late last year is highly convincing. “Economic Vulnerability to Peak Oil”, published in the journal *Global Environmental Change*, presents a vulnerability map of the U.S. economy and suggests that the entire U.S. economy is at risk from peak oil. While all sectors of the economy are at risk according to the map and the study results, it is loss of food supply which is the most serious and most immediate risk to northern New England, a region which produces so little of its own food (10%-12% for the region, only 4% or so for New Hampshire) and which region is geographically at the end of the line for U.S. food supply. (While Maine is vulnerable for being at the very end of the national food and energy supply chain, New Hampshire is at a greater disadvantage in that it produces so very little of its own food, one of the worst in-state production records in the nation.) The authors of the recent University of Maryland study suggest the remedy of “curbing the strong dependence on artificial fertilizers by promoting organic farming techniques” and by “reducing the overall distance traveled by people and goods by fostering local, decentralized economies.” (“Economic Vulnerability to Peak Oil” by Christian Kerschner, Christina Prell, Kuishuang Feng and Klaus Hubacek, *Global Environmental Change*, No. 23, pp. 1424-1433).

### **Oil Before Food:**

In the teaching at UNH of a number of courses on the question of peak oil, on oil and food, on the regional and global economy, and on questions of de-growth, I’ve had occasion to understand the true meaning of the idea that oil comes before food, that our situation for the past 90 years has been such that we must have oil before we can eat. This has never been true in the history of humanity, until today. So the availability of oil, and particularly the price of oil, is critical to not only maintenance of our lifestyle but to the existence of our very lives. If you know anything at all about oil and its behav-

ior in the last several decades, you know that our oil is not secure, and even no longer available at a price that can maintain our economy, our way of life. And if our oil is not secure, then by definition our food is not secure. You may know that each molecule of food we consume travels 1500 to 1700 miles from its source to our dinner table. You may know that, for every unit of energy contained in that food, we must invest 10-13 units of energy to produce it and get it to our plate. You may know that nearly all of that food travels by truck, and that the greatest single source up to this year has been California, with some coming from as far away as China. And you may know that, thanks to the business practice of “just in time” delivery, we have only three day’s supply of food on-hand in New England at any one time. I won’t go any further into the insecurity of our global oil supply, except to say that the desperate behavior of our current handling of oil and natural gas, from well to refinery to consumer, proves, through the commission of those desperate acts, whether deep-water drilling, fracking of tight oil and shale gas, transporting oil long distance and dangerously by rail, and investing in money-losing oil and gas plays, that there is no more easy- to- get or cheap oil left. We are scraping the bottom of the barrel. In fact, as highly credible fracking critic the late Randy Udall has said, our cushy way of life is increasingly dependent on stingy rocks, oil shale rocks which are “tighter than a tombstone” and deplete very rapidly. “If geology is destiny, decline rates are its script”, Udall tells us. The American future isn’t a romance with abundance – it’s a plea bargain with depletion. We move from a reliance on conventional oil flowing freely – that’s largely gone – to a dependence on shale plays whose permeability is a million times less. We are truly scraping the bottom of the barrel. And the plea to President Obama by the retiring Chair of the National Transportation Safety Board (NTSB) to use his emergency powers to bring to an immediate halt the dangerous movement of volatile and explosive fracked shale oil in substandard rail cars moving over worn-out track has fallen on deaf ears. And remember: oil is today the primary foundation of our food supply. But it doesn’t have to be that way.

We are now told by reliable sources that it is too late to prevent climate change – we will have to live with its effects for many decades. But we are told that we can ease the negative effects of climate change through the maintenance of resilience in all we do, and through various methods of adaptation. And while we can study and analyze the projected impacts of climate change on our own state and region – in New Hampshire we have separate sets of findings for southern and for northern New Hampshire – but we had also better consider climate change’s impacts on the areas upon which we are dependent for food and fuel. This includes the seriously drought-stricken areas of California and Texas and the chronically flooded regions of the Upper Midwest. As well, we can anticipate economic impact through the cost of re-building tornado-damaged and hurricane-damaged factories, homes and public infrastructure. There is no escape.

### **Playing to One’s Strength:**

This brings me to the title of my talk, a title which is an obvious reference to that state next door, whose state motto as expressed on its license plates is “Live Free or Die”.

I believe in playing to one’s strengths. And I believe that institutions and organizations should play to their strengths, and thus gain advantage from their strengths as well. Living in and observing New Hampshire for the last four decades has taught me that my state has a strong libertarian bent. This is even evident among New Hampshire’s Democrats, as it is among its Republicans, and certainly among its very large number of political Independents. The state’s Libertarian Party may not win many votes, but it is libertarian-leaning Democrats and Republicans who win the elections.

Taking inspiration from this reality, my newest book is entitled LIVE FREE AND FARM: FOOD AND INDEPENDENCE IN THE GRANITE STATE. And it seeks to answer the question, “Who will feed New Hampshire?” And by how much? (At a population of 1.3 million, there is no suggestion here that New Hampshire can or should become food self-sufficient. But could New Hampshire generate a significant quantity of the food it daily consumes? And, if so, how much? 40%? 50%? 60%? More?

And this brings us to my new book. While my earlier trilogy, THE WISDOM OF SMALL FARMS AND LOCAL FOOD (2005), PASTURES OF PLENTY (2008), and THE REAL DIRT (2010), focused broadly on New England, LIVE FREE AND FARM: FOOD AND INDEPENDENCE IN THE GRANITE STATE focuses solely on New Hampshire, not only as a service to the people of that state but because I believe New Hampshire has a story to tell to the rest of the nation. The Granite State’s message is one of unleashing the spirit, energy and passion of a libertarian-leaning population and seeing what comes of it.

As elsewhere in New England, New Hampshire is a land of towns, 212 of them (plus 13 cities). And in New Hampshire, towns are where the action is. Like Massachusetts, we now have town agricultural commissions (AgComs, as they are called) which exist to encourage, to educate, to advocate for agriculture, to keep a clear path open for agriculture, for local food production and processing in every one of those towns and cities. These commissions represent an open invitation to the townspeople to pick up the hoe, start the tractor, purchase or breed animals, purchase and plant seed, and, through farmers markets and CSAs, support those who do. It means getting on with the important business of creating new wealth where wealth did not exist before, to garden, to farm, to feed ourselves and our communities. (AgComs and their functioning are described in some detail in my 2010 book, *The Real Dirt*.)

### **Our Right to Food:**

After detailing our “agrarian revolution”, about which I wrote so much in my earlier books, and additionally describing the roots of that revolution in our own national history of dependence and independence, and after reviewing oil’s worsening threat to local food security, I explore the notion of freedom to farm and our right to food, including our right to produce food to feed ourselves and our neighbors. It was America’s own Eleanor Roosevelt who secured this right for us, and for all peoples, through her persistent work behind the 1948 UN Declaration of Human Rights. If we have a right to food, we have a right to farm, a right to feed ourselves. Thus, we have an obligation to work to remove the barriers that exist to our own food production, both individual and community production. Since the 1960s these barriers exist in planning, in zoning, and in inappropriate sanitation laws and rules which actually stand in the way of producing and processing our own local healthy food and actually favor much less healthy industrially grown and processed food. We turned away from the common sense agrarians of our forebears as recently as the 1950s and, through the 1960s up to 1990s passed law after law, ordinance after ordinance, which insured we could not feed ourselves, that moreover we would have to be fed through the practice and dictates of large corporations which clearly do not place either our health or our security very high on their agenda. For industrial scale and super-processed food is indeed highly profit-generating. Health and security are not.

In our state, New Hampshire, our legislature has just passed a bill which I and Sen. Martha Fuller Clark wrote and Sen. Clark introduced called “Granite State Farm to Plate” (SB-141). The bill takes



its name and its inspiration from Vermont's Farm to Plate Strategic Plan but, in keeping with New Hampshire's political reality, carries no budget. Attracting conservatives and liberals alike, libertarians and those less so inclined, the bill is designed to "encourage and support" New Hampshire farmers and fishermen, and those who add value to the product of New Hampshire's land and sea, in their dealings with local government (selectboards, town administrators, town and city councils, planning boards, school boards, and others), and with all state agencies and the courts. It is designed to unleash that essential libertarian spirit that resides in so many New Hampshire people, remove barriers in their path, and encourage them to rise up in every corner of the state in their effort to produce and prepare every type of food which it is possible to produce in the New Hampshire environment. Governor Maggie Hassan will sign the bill into law this month as RSA 425:2-a. The passage of this bill in a very divided House and Senate is proof positive that local food and farming can be a uniting issue among politically very disparate and divided politicians and constituencies. And it should be uniting, for we all eat.

### **"Granite State Farm to Plate":**

Finally, LIVE FREE AND FARM describes in detail how the people of the Granite State can make full use of their land grant university and its college of agriculture to serve their need to enhance and protect their own food security. UNH is there to teach, to do research on behalf of and to serve all the people of the state, their soils, their natural resources, their farms, their farmers, their food system. It is up to the people to hold the university accountable in the performance of this task. It is among the greatest in-state resources available to secure our food future, in New Hampshire as in any other state.

A cursory study of New Hampshire, or any New England state, in the era of the 1940s-1950s will show how advanced agrarian thinking was at that time. This era featured the most modern and sophisticated recognition of the values of green pastures and the practice of grazing, as well as the larger social value of a very well developed local food economy. But by 1960 we had begun to turn away from grazing, from our knowledge of efficient use of our soils, our pastures, our animals, and become ever more dependent on fossil fuels, on confinement agriculture, and, most importantly, on less healthy and highly processed food from away. (If you wish information on the true costs and dangers of such highly processed foods, I urge you to see the new documentary film, *Fed Up*.) Our agriculture nearly disappeared. But, by the late 1990s, the tide had turned once again, and the current modern era of new agriculture, our contemporary agrarian revolution, had begun to take hold. We are now two decades into that revolution and its promise is becoming ever brighter. Let us hope that our people, in New Hampshire and across New England, will pick up the hoe, start the tractor, put the animals on pasture, and come to realize again the joy of good healthy and most tasty food!

## Ode of a New Farmer

“Another few days, though, and the great crescendo of spring would begin, the list of things to do fast outpacing the things that can be done... Unknown outpaces known like to do outpaces done. These acres are a world. What answers has the ground offered? Only the notion that there are answers. Underlying soil is bedrock, and if you dig deep enough you'll hit it. That's the closest I've come to surety, and it is enough for me.”

Kristin Kimball, *The Dirty Life: On Farming, Food, and Love* (2010)



## **About the Author**

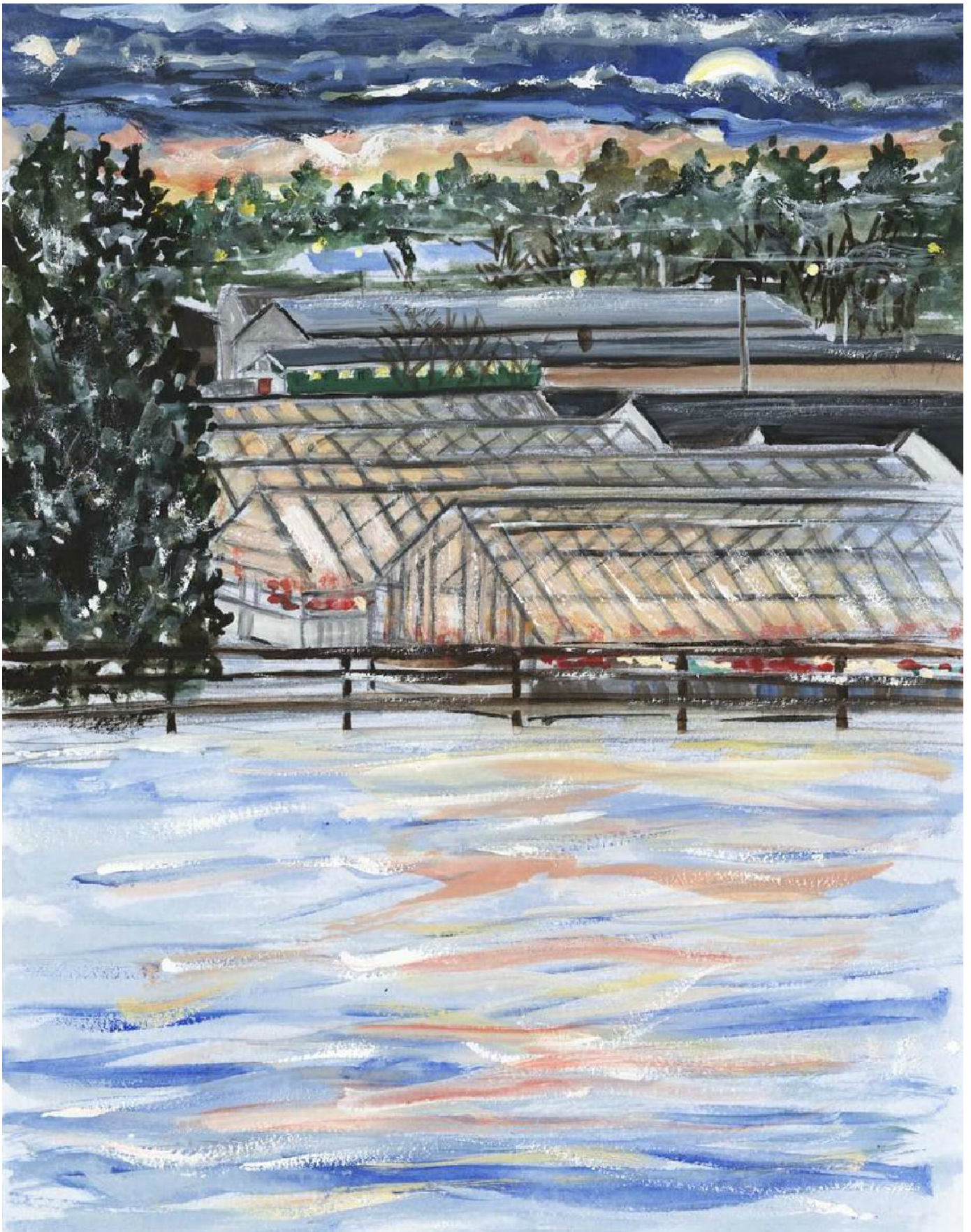
John E. Carroll, Professor of Environmental Conservation, has been a member of the University of New Hampshire College of Life Sciences and Agriculture faculty for forty years. He lives in Durham where he serves as a member of the Durham Agricultural Commission. He is co-author of New Hampshire's Granite State Farm to Plate statute. This is his thirteenth book.

## **About the Illustrator**

Linda R. Isaacson, long-time former employee of the the Department of Natural Resources and the Environment at the University of New Hampshire, is currently pursuing her love of art and graphic design. She enjoys painting watercolors and acrylics of people at work in their environment. Among recent commissions, she painted three portraits of Natural Resources grad students at work in their research and these paintings hang in James Hall. Linda and her husband reside in an old 1850's farmhouse in Rochester, NH where they enjoy farming and gardening on their beautiful land.







*“UNH MACFARLANE GREENHOUSES”  
on a winter’s evening*