

Science-Farm-Market: Continuing Revolution

The American Revolution brought runaway inflation. Thousands of Connecticut farmers were in debt at its close, but some merchants and commissary agents had made substantial fortunes supplying American and French armies. Many of the debtors left Connecticut for better prospects north and west. The new fortunes were invested in new industries and the revival of trade: both newly free of British Imperial control. From this time forward, farming in Connecticut would be less about subsistence, and more a matter of business.

The farmers who remained sought to improve the productivity of their farms. A new 'scientific' approach to farming had grown out of the Enlightenment notion of the perfectibility of all things through Reason. Wealthy farmers in particular began to experiment with new breeds, new crops, new ways of improving the fertility and yield of their soil.

The Indians used menhaden to fertilize their corn crops, and English settlers continued this practice along the coasts and tidal rivers. Cattle that had been left to roam at large were now sometimes pastured in more confined areas for a time to make use of the manure. Plaster of Paris (lime) was found to sweeten the soil (neutralize acidity). All of these amendments cost something. Menhaden at \$1 per thousand might cost \$8 to treat an acre of pasture. Ploughed under and planted in grain the next year, that acre might yield twice the harvest of an untreated field. Critically, the market determined whether or not this was a good investment. Progress was a slow process of experimentation, careful observation, and sharing results.

Word of mouth among local farmers was supplemented by published books and newspaper articles. Breeder's clubs emerged among those interested in improving dairy herds, horses, hogs, cattle, or sheep. Local and regional fairs showed off the best of breed. Even before the Revolution Connecticut had been sending flaxseed to Ireland

to counteract a blight that threatened the Irish crop. European pests had also made inroads in America, and resistant varieties were imported and crossed with local grains to combat them.

Chemistry had emerged from alchemy in the 17th century to become the Queen of Sciences in the 19th. The isolation and identification of particular substances and how they combined with one another brought first a trickle then a flood of innovation. In 1840 Justus von Liebig's "Theory of Mineral Nutrients" identified nitrogen (N), phosphorus (P), and potassium (K) as essential to plant growth. These are the same elements identified in

the 10-10-10 or 30-0-0 fertilizer you buy today (labeled for the percentage of each element, in the order: N-P-K). In time other elements were identified as secondarily important (calcium (Ca), magnesium (Mg), and sulfur (S)) or valuable as trace elements (iron (Fe), zinc (Zn), etc.). Liebig also promoted Carl

Sprengel's 1840 "theorem of minimum" which said plant growth is constrained to that allowed by the availability of the most scarce of its required nutrients.

Nitrogen makes up 78% of the atmosphere, and Liebig believed plants could take it from the air as they did CO₂. Legumes (clover, beans, peas,...) can capture or "fix" free nitrogen, but most plants cannot. They need it in a different form, often provided by nitrogen-fixing bacteria in the soil (a thing unimagined in Liebig's day), or in animal waste. In 1805 French chemists had analyzed a sample of sea bird droppings Alexander von Humboldt brought back from Peru. The locals called it "guano" and used it for fertilizer. The chemists found it rich in nitrogen, but nothing much came of their analysis. When Liebig published his theories, the world put two and two together and a guano rush, replete with Guano Wars, was soon off and running.

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The mission of the Old Lyme Historical Society, Incorporated, is to collect, preserve, interpret and promote the rich history of Old Lyme, Connecticut and its environs for the benefit of residents and visitors.

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From the Chair ...

Dear Members,

This fall the Historical Society resumed its Oral History interviews, which will continue after the holidays. It is a fascinating project that captures first-hand accounts of the times of our lives. I am continually surprised by the breadth of experience in the people I meet in Old Lyme. The project has a full slate of interview candidates coming up, but there is always room for more. If you know of someone with great stories to tell about life in Old Lyme, let them know about our Oral History project, and let us know about them. Perhaps we can get together for a chat about life in this surprising town.

The first three Saturdays in December (2nd, 9th, and 16th) OLHSI will be at the Post Office on Halls Road to sell books, cards, calendars, tea towels, and what have you for the benefit of the Society. We look forward to seeing you there!

As always, please see our web site for details of these and other Old Lyme Historical Society events. Thank you for your support!

— Mark Terwilliger, *Chair,*
Old Lyme Historical Society, Inc.



Photograph by James Meehan

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Back row: Katie Balocca, Mark Comstock, Mary Ellen Jewett, Cynthia Taylor, Corresponding Secretary, Edith Twining, Mary Dangremond, Kinny Kreiswirth, and John Pote. *Middle row:* Ann Marie Jewett, Treasurer, Mark Terwilliger, Chair, and Ross W. Higgins, Recording Secretary. *Front row:* Nancy Mol, Dawn McCarthy, James Meehan, Jill Pilgrim, and Eleanor Hufford. *Not shown:* Ted Freeman, Alison Mitchell, Elaine Stiles, Jill Todd, Matt Ward, and Nicholas Westbrook.



Photograph by James Meehan

OLHSI Launches 12th “Then & Now” Community Calendar



On Thursday, November 16, 2023, the Old Lyme Historical Society had the pleasure of hosting its 2024 “Then & Now” Old Lyme Community Calendar launch. Over 75 guests attended the “after hours” event where refreshments, wine, beer and soft drinks were served and the 12th annual collectable calendar was available for purchase.

OLHSI would like to thank this year’s sponsors for their participation: the Town of Old Lyme, the Old Lyme Phoebe Griffin Noyes Library, Appleby Plumbing Company, William Pitt / Sotheby’s International Realty, the Old Lyme Fire Department, the Old Lyme Historic District Commission, the Ladies Benevolent Society at the First Congregational Church of Old Lyme, Lyme Art Association, Essex Savings Bank, Florence Griswold Museum, The Bowerbird, and the Chocolate Shell.

The Society extends a special “thank you” to this year’s Raffle donors: The Chocolate Shell, Coffee’s Market, the Hangry Goose, the Ladies Who Stitch of the First Congregation Church, and Lillywork Tile.

The 2024 “Then & Now” Community Calendar makes a great holiday gift for friends and family and is available at The Bowerbird, Florence Griswold Museum, The Chocolate Shell, the OLHSI Archives, and the Society’s website OLHSI.org. Calendars are \$12.00 each, and proceeds support the Old Lyme Historical society.

Have a happy and healthy holiday season and the very best of 2024.

From the 2023 Season of Events



May 25, 2023

WWI Memorials of Connecticut
presented by Richard F. Donohue



June 12, 2023

Historic Architecture of Lyme Street
presented by Damien Cregeau



June 29, 2023

The Ludingtons and Old Lyme,
a conversation with Jane Ludington
and Michaëlle Pearson



September 21, 2023

*The Life & Times of
Private William Webb,*
enacted in character by Kevin Johnson

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The menhaden fisheries along the Connecticut shoreline, looking for new markets, began steaming and pressing their catch for fish oil, and selling the solid residue as “guano.” It was useful, and certainly more transportable than whole fish, but not as potent as whole fish or the guano from Peru. In time, states would establish offices to certify the composition of fertilizers. In the interim, experience (and market prices) were the best gauge.

Investment in manufacturing drew workers away from farming, but turned them into customers for farmers’ produce. Unmarried girls and young boys were among the first “operatives” in New England’s textile mills. The output of those mills was rapidly adopted by farm families, as it saved them the major effort of making their own. With all the farmland spoken for, sons could no longer be assured a farm of their own. Jobs in manufacturing and trade created viable options. Over 90% of Connecticut men had been farmers or farm workers in 1790. By 1850 only half were.



Market changes shifted the focus of Connecticut farmers repeatedly. The opening of the Erie Canal in 1830 brought wheat and flour from the west at prices Connecticut farmers could not hope to match. Ironically, this finally allowed them to begin eating more wheat bread and give up their “rye-n-injun.” The advent of railroads twenty years later changed markets yet again. At first, it opened large metropolitan markets in Boston and New York to perishable commodities: fruits, vegetables, and fresh milk. Soon it also undercut Connecticut beef and pork, as Chicago became a rail hub and major center of meat packing.

Dairying had an increasing share of Connecticut farm output throughout the 19th century. Until the advent of refrigeration, the cream was typically skimmed from milk to use in making cheese or salted butter which were far less perishable. The skim milk was then fed to animals or simply discarded. A market for whole milk was consciously cultivated by dairying interests in the late

19th century, touting it for children’s health. Dairying remains a significant part of Connecticut farming.

By the 1920s, Connecticut farms were fewer and farther between. Farmers had dropped from 50% to 10% of the state’s population. After many decades of strong immigration, about one third of the farmers were foreign-born. Though Connecticut farms were less numerous, they were among the nation’s most productive per acre. They had certainly learned to farm intensively.

The 1950s brought a massive wave of suburbanization, sending land prices in many areas to a height that farmers (or their children) could not resist. Where farms remained, technology continued to change markets. Modern refrigeration and interstate highways meant dairies no longer served their local region only, but competed across almost the whole USA. Many Connecticut dairies folded in the 1970s as producer prices tumbled.

Horticulture (nurseries, flowers, etc.) is now the leading segment of Connecticut agribusiness, followed by dairy, vegetable crops, aquaculture, and tobacco. Stock raising, poultry, fodder, and most of the traditional New England agricultural pursuits are also represented, but in smaller percentages. Farmland (including farm woodlots) covers less than 10% of the state. Dwellings cover about 17%, and forests about half.

History reminds us few things are forever. Fresh New Zealand apples in the spring and Peru asparagus in the fall are wonderful luxuries (if their ‘carbon footprint’ is less so). We love our woodlands, but Connecticut farms are also an important part of what makes this state beautiful and livable. Our farmers have proven resilient through many difficult changes. We can only hope they show that same resilience going forward.

— Mark Terwilliger