

Thomas Jefferson and the Gardens of Monticello®

Peter Hatch

Box 316, Charlottesville, Virginia, 22902 U.S.A.

Email: phatch@monticello.org

Jefferson, third President of the United States (1801–1809), author of the Declaration of Independence, and consummate Renaissance man, was crazy about gardening. His interest in gardening arose from a wide-eyed curiosity about the natural world. Jefferson chose the site for Monticello because of its sweeping prospects of the Piedmont Virginia countryside and intimacy with the busy “workhouse of nature.” The landscape was his “workhouse” and the gardens at Monticello became an experimental laboratory. He approached natural history as a scientist, as an experimenter who aspired to observe and define seemingly all the natural phenomena “fabricated at our feet” — whether the wind direction, the blooming dates of wildflowers, or the life cycle of a destructive insect. But it was through gardening that his experiments bore fruit, and the drama of the natural world began to unfold under his personal direction.

Jefferson’s methodical record-keeping reflects his view of the natural world as a biological laboratory. One of his most enduring legacies was his garden diary, published as *Thomas Jefferson’s Garden Book* in 1944. This edition includes not only his personal garden book — a “Kalendar” of plantings in his garden, short treatises on soil preparation for grape vines, and meticulous notes on how many “grey snaps” would fill a pint jar — but also extracts from the letters he wrote and received concerning gardening, natural history, and landscape design. When Jefferson wrote, “The greatest service which can be rendered any country is to add a useful plant to its culture,” he was expressing his hopes that the introduction of new economic plants could be a means of transforming American society (Jefferson, 1800). The staggering number of both useful and ornamental plants grown at Monticello, including over 330 vegetable and 170 fruit taxa, attests to Jefferson’s experimental approach. Monticello was a botanic garden of new and unusual introductions from around the world, and the geographic homes of the plants grown at Monticello reflect the reach of his gardening interests — new species discovered by the Lewis and Clark expedition like the snowberry bush and flowering currant, Italian peach and grape cultivars probably first grown in the New World by Jefferson himself, and giant cucumbers from Ohio 24 inches long. Thomas Jefferson envisioned plants as a vehicle for social change.

Jefferson also championed the use of native plants at a time when there were numerous European detractors of the American natural world. The only book Jefferson published during his lifetime, *Notes on the State of Virginia*, was partly an effort to refute Buffon and one of the chief tenets of his thesis: that the excessive humidify in the United States crippled the biological environment (Jefferson, 1955). Even in his ornamental plantings at Monticello Jefferson created a pleasing blend of native and exotic plants.

American horticulture was in its infancy during Jefferson’s lifetime, 1743–1826, and his association with the pioneer gardeners of the United States — nurserymen, writers, plant explorers, botanists, landscape designers, progressive agriculturists, experimental viticulturists — suggests Jefferson’s vital participation in the defini-

tion of New World plants, gardens, and landscapes. Jefferson's sponsorship of the Lewis and Clark expedition and his role in co-founding both the Albemarle Agricultural Society and American Philosophical Society set a lofty standard for the promotion of scientific exploration by an American public servant.

For Jefferson, plants were intimately associated with people — friends, neighbors, political allies — and the exchange of seeds, bulbs, and fruit scions represented a token of enduring friendship. This union of gardening and sociability is evident throughout the letters in the *Garden Book*. Jefferson would chide his daughters and granddaughters for their inattention to the flower beds around the house, while they in turn would report on the latest horticultural dramas taking place at Monticello. Jefferson also engaged in friendly competitions with his neighbors to determine who could harvest the first English pea (*Pisum sativum*) in spring. The winner then hosted a community dinner, sharing the winning dish (or teaspoon) of peas (Jefferson, 1766–1824).

Ellen Randolph Coolidge, Jefferson's granddaughter, recalled the heyday of flower gardening at Monticello: "When the flowers were in bloom, and we were in ecstasies over the rich purple and crimson, or pure white, or delicate lilac, or pale yellow of the blossoms, how he would sympathize in our admiration, or discuss...new groupings and combinations and contrasts. Oh, these were happy moments for us and for him." (Coolidge, n.d.) The gardens of Monticello hardly existed in a horticultural vacuum, but were nourished generously by a society of local, Virginian, American, and international gardeners.

Jefferson's essential philosophy of gardening was perhaps best summarized in a letter to his daughter Martha after she complained of insect-riddled plants in the Monticello vegetable garden: "We will try this winter to cover our garden with a heavy coating of manure. When earth is rich it bids defiance to droughts, yields in abundance, and of the best quality. I suspect that the insects which have harassed you have been encouraged by the feebleness of your plants; and that has been produced by the lean state of the soil." (Jefferson, 1793) Such commitment to the regenerative powers of soil improvement suggests Jefferson's belief in the wholesome balance of nature and gardening. His response to the damage inflicted by the Hessian fly on his wheat crop revealed more a naturalist's curiosity about an insect's life cycle than a farmer's quest for a successful harvest (Jefferson, 1791). When Jefferson wrote that, for a gardener, "the failure of one thing is repaired by the success of another," he was expressing further this holistic approach to horticulture (Jefferson, 1811).

Thomas Jefferson was a planter; 1,031 fruit trees were set out in his South Orchard alone. He documented the planting at Monticello of approximately 113 species of ornamental trees and 65 shrubs, over 100 species of herbaceous plants in his flower gardens, and 450 taxa of 95 species of fruits, vegetables, nuts, and herbs. The success or failure of his horticultural experiments was inconsequential compared to the example of his stewardship. Jefferson's enthusiasm often outstripped his practical capability and the saga of many horticultural projects, from grape culture to sugar maple plantations, began with dreamy visions that dissolved before the harsh realities of the Virginia climate and an unruly plantation structure. The history of gardening at Monticello is not so much a testament to Thomas Jefferson's horticultural triumphs as it is a reflection of the Jefferson spirit — expansive, optimistic, innocent, epicurean; very American.

Although there were earlier references to the flower “borders,” not until 1807 did the Monticello’s flower gardens assume their ultimate shape. Anticipating his retirement from the presidency, Jefferson sketched a plan for 20 oval-shaped flower beds in the four corners or “angles” of the house. Each bed was planted with a different flower, most of which had been forwarded as seeds or bulbs from Bernard McMahon, the Philadelphia nurseryman and author of *The American Gardener’s Calendar*, a favorite source of gardening information for Jefferson. The range of flower species planted in 1807 reflected the scope of Jefferson’s interests: Old World florist’s flowers, local wildflowers, plants of curiosity, and the fruits of botanical exploration (Jefferson, 1897).

In June of 1808 Jefferson sent his granddaughter, Anne, a plan for further plantings for the West Lawn: “I find that the limited number of our flower beds will too much restrain the variety of flowers in which we might wish to indulge, and therefore I have resumed an idea...of a winding walk...with a narrow border of flowers on each side. This would give abundant room for a great variety.” (Jefferson, 1807) The winding walk and the accompanying flower border were laid out in the spring of 1808. By 1812, a need for a more systematic organization required the division of the borders into 10-ft sections, each numbered and planted with a different flower (Jefferson, 1807). The winding, relaxed lines of the walkway reflect Jefferson’s interest in the latest, informal style of landscape design.

The flower gardens were cared for by Jefferson’s daughters and granddaughters, often assisted by Monticello’s most skilled African American slave gardener, Wormley Hughes, or by Jefferson himself, who would help with the design schemes, write labels, or set up a string line to assure straight rows (Coolidge, N.D.). The flower gardens virtually disappeared after Jefferson’s death in 1826, but were restored by The Garden Club of Virginia between 1939 and 1941 (Perkins, 1939-1941).

In 1806 Jefferson drew a sketch of Monticello mountain and designated 18 acres on the northwestern side as the “Grove,” an ornamental forest with the undergrowth removed, the trees pruned and thinned, and the woodland “broken by clumps of thicket, as the open grounds of the English are broken by clumps of trees.” He envisioned a pleasure ground where “the canvas at large must be Grove, of the largest trees trimmed very high, so as to give it the appearance of open ground.” In many ways, the lower or woodland part of the Grove represented Jefferson’s ideal American landscape, where “gardens may be made without expense. We have only to cut out the superabundant plants.” He said that “under the constant, beaming, almost vertical sun of Virginia, shade is our Elysium.” (Jefferson, 1806; Jefferson, 1788)

“I have lived temperately, eating little animal food, and that...as a condiment for the vegetables, which constitute my principal diet.” (Jefferson, 1819)
— Jefferson to Vine Utley, 1819.

When Jefferson referred to his “garden,” he, like most early Americans, was reserving the term for his 1000-ft-long vegetable garden terrace on the southeastern side of his “little mountain.” This garden was his chief horticultural achievement at Monticello. Although the garden served as a food source for the family table, it also functioned as a laboratory where he experimented with 70 different species of vegetables. While Jefferson would grow as many as 46 bean selections and 25 types of English pea, his use of the scientific method selectively eliminated inferior sorts: “I am curious to select one or two of the best species or variety of every garden vegetable, and to reject all others from the garden avoid the dangers of mixing.” (Jefferson, 1801)

The garden terrace was established by 1809, and by 1812, gardening was at its peak. The terrace or garden plateau was hewed from the side of the mountain by African-American slaves leased by Jefferson from a Fredericksburg farmer. They used a cart and a mule to level the terrace, which was described as a “hanging garden” by one visitor (Jefferson, 1806; Jefferson, 1807; Jefferson, 1807).

The main part of the 2-acre garden is divided into 24 “squares,” or growing plots. Species were planted, at least in 1812, according to which part of the plant was being harvested — whether “fruits” [tomatoes (*Solanum lycopersicum*), beans (*Phaseolus*)], “roots” (beets, *Beta vulgaris*), or “leaves” [lettuce (*Lactuca sativa*), cabbage (*Brassica oleracea* Capitata Group)]. The site and situation of the garden enabled Jefferson to extend the growing season into the winter months and provided an amenable microclimate for tender vegetables such as the artichoke (*Cynara cardunculus* Scolymus Group) and winter crops like spinach (*Spinacia oleracea*) and endive (*Cichorium endivia*). Because of favorable air drainage on a small mountaintop, late spring frosts are rare at Monticello and fall’s first freeze rarely occurs before Thanksgiving. Jefferson would often gloat over his lowland neighbors’ loss of frost-bitten fruit, while his own remained unscathed.

The recreation of the Monticello vegetable garden began in 1979 with 2 years of archaeological excavations designed to confirm details from the documentary evidence. Archaeologists uncovered the remnants of the stone wall, exposed the foundation of the garden pavilion, and discovered evidence for the location of the entrance gate, which then ensured that the squares were laid out according to Jefferson’s specifications. While harvested vegetables are today distributed to Monticello employees, the garden also serves as a preservation seed bank of Jefferson and 19th-century vegetable selections. Monticello’s Fruit Garden, or “Fruiterie” as Jefferson called it in 1814, sprawls below the vegetable garden. It includes the 400-tree South Orchard; two small vineyards (“northeast” and “southwest”); berry squares of currants, gooseberries, and raspberries; a nursery where Jefferson propagated fruit trees and special garden plants; and “submural beds,” where figs (*Ficus carica*) and strawberries (*Fragaria xananassa*) were grown to take advantage of the warming microclimate created by the stone wall. On the other side of the mountain, Jefferson’s north orchard was reserved for cider apples and seedling peaches (peach trees grown from seed).

Both the Monticello fruiterie (including the south orchard) and the north orchard reflected the two distinct forms of fruit growing in 18th-century Virginia. The north orchard was typical of the “field” or “farm” orchards found on most middle-class farms: it was large, on average 200 trees, and consisted of only apple (*Malus domestica*) or peach (*Prunus persica*) trees. The fruit was harvested for cider, brandy, or as livestock feed. There is some truth to one historian’s tongue-in-cheek remark that it was a significant event when Americans began eating their fruit rather than drinking it (Bailey, 1922). On the other hand, the Monticello Fruiterie resembled a gentleman’s Fruit Garden in the Old World horticultural tradition, and was similar to the diverse recreational plantings of other wealthy Virginians such as George Washington. Between 1769 and 1814 the South Orchard was planted with as many as 1,031 fruit trees. It was organized into a grid pattern in which were 18 cultivars of apple, 38 of peach, 14 cherry, 12 pear (*Pyrus*), 27 plum, 4 nectarine, 7 almond (*P. dulcis*), 6 apricot (*P. armeniaca*), and 1 quince (*Cydonia*). The earliest plantings, before 1780, reflect the experimental orchard of a young Thomas Jefferson

eager to import Mediterranean culture to Virginia and included olives, almonds, pomegranates, and figs. The mature plantings, after 1810, included mostly species and cultivars that either thrived through central Virginia's hot, humid summers and cold, rainy winters of central Virginia — such as seedling peaches and Virginia cider apples — or else, Jefferson's favorite fancy fruits like the Carnation cherry. The restoration of the South Orchard began in 1981 and was an attempt to recreate his mature, 1811 plan (Hatch, 1998).

The peach might be regarded as Jefferson's favorite type of fruit tree: he documented the planting of 38 cultivars, and in 1811 the South Orchard included 160 peach trees, far more than any other species. When Jefferson wrote his granddaughter in 1815 that “we abound in the luxury of peach” (Jefferson, 1851), he was repeating a theme expressed by colonial fruit growers and even the first natural historians of the New World. Just as the peach represented the luxurious fertility of the New World, the apple came to symbolize the diversity of America's melting pot culture. One modern source listed the names of nearly 17,000 apple cultivars that appeared in nineteenth-century American periodicals. Jefferson's favorite apples included *Malus* ‘Hewes’ Crab’, a cider apple widely distributed in colonial Virginia, and *M. Taliaferro*, “the best cider apple existing” (Jefferson, 1816). When comparing the fruits of Europe and America, Jefferson wrote from Paris, “They have no apple to compare with our ‘Newtown Pippin’ ” (Jefferson, 1785), which with the *Malus domestica* ‘Esopus Spitzenburg’, was his favorite dessert apple. Indeed, Jefferson's 130 taxa of fruit trees represented the finest cultivars available to an early nineteenth-century North American gardener. Thomas Jefferson has been described as America's “first distinguished viticulturist,” and “the greatest patron of wine and winegrowing that this country has yet had” (Pinney, 1989). Although he aspired to make a Monticello-grown wine, his continual replanting of the vineyards suggests a perennial and losing struggle with grape cultivation. But Jefferson was not alone. The successful cultivation in eastern North America of *Vitis vinifera*, the classic European wine species, was virtually impossible until the development of modern pesticides. Native grapes were more effectively grown, yet they produced wine of questionable quality. The two vineyards, northeast (9,000 ft²) and southwest (16,000 ft²), were ideally sited for grape growing in the heart of the south orchard below the garden wall. In 1807, Jefferson documented the planting of 287 rooted vines and cuttings of 24 European grape cultivars, the most ambitious of seven experiments (Historical Society of Pennsylvania, Philadelphia, 1807). Many of these vinifera cultivars had never been grown in North America. Such a varietal rainbow, many of them table grapes, represents the vineyard of a plant collector, an experimenter rather than a serious wine maker. The 1807 plan for the northeast vineyard was restored in 1985, the southwest, in 1992.

LITERATURE CITED

- Bailey, L.H. 1922. *The Apple Tree*. The Macmillan Company, New York. p. 62.
- Betts, E.M. 1944. Calendar for this year, 1812, March 28, 1812, p. 474. Garden Book, Thomas Jefferson Foundation, Monticello, Virginia.
- Coolidge, E.R. n.d. To Henry Randolph. In: Henry S. Randolph, *The Life of Thomas Jefferson*, Derby and Jackson, New York (1868) 3:346–347.
- Coolidge, E.R. n.d. To Henry Randolph, in Randall, *Life*, 3:346–347.
- Hatch, P.J. 1998. *The Fruits and Fruit Trees of Monticello*. University of Virginia Press, Charlottesville, Virginia.

- Historical Society of Pennsylvania, Philadelphia.** 1807. Vineyard Plan. In: Weather Memorandum Book.
- Jefferson, T.** 1766–1824. Garden book. Edited by E.M. Betts, introduction by P.J. Hatch. Thomas Jefferson Foundation, Monticello, Virginia.
- Jefferson, T.** 1785. To Reverend James Madison, 28 October 1785. In: Julian Boyd, Editor, *The Papers of Thomas Jefferson*, Princeton University Press, Princeton, New Jersey 1950. 8:681–683.
- Jefferson, T.** 1788. Hints to Americans traveling in Europe, enclosed in letter to John Rutledge Jr., 19 June, 1788. In: Julian Boyd, Editor, *The Papers of Thomas Jefferson*, Princeton University Press, Princeton, New Jersey 1950. 13:269.
- Jefferson, T.** 1791. To Thomas M. Randolph, 1 May, 1791. In: E.M. Betts, *Garden Book*. Thomas Jefferson Foundation, Monticello, Virginia.
- Jefferson, T.** 1793. To Martha Randolph, 21 July, 1793. In: E.M. Betts, *Garden Book*. Thomas Jefferson Foundation, Monticello, Virginia.
- Jefferson, T.** 1800. Memorandum of services, unpublished manuscript, c. September, 1800, Library of Congress, Washington, DC (DLC, reel 22).
- Jefferson, T.** 1801. To Bernard McMahon, 13 January, 1810. In: E.M. Betts, *Garden Book*. Thomas Jefferson Foundation, Monticello, Virginia.
- Jefferson, T.** 1806. To William Hamilton, July 1806. In: E.M. Betts, *Garden Book*. Thomas Jefferson Foundation, Monticello, Virginia.
- Jefferson, T.** 1806. To Lewis W. Dangerfield, 5 September, 1806, Massachusetts Historical Society.
- Jefferson, T.** 1807. To Anne Cary Randolph, 7 June, 1807 and 16 February, 1808, in Betts, *Garden Book*, p. 349, and 363–364. See also sketch reproduced in E.M. Betts, *Garden Book*, plates XXIV and XXV.
- Jefferson, T.** 1807. To Edmund Bacon, 24, November, 1807, Henry E. Huntington Library, San Marino, California.
- Jefferson, T.** 1811. To Charles Willson Peale, 20 August, 1811. In: E.M. Betts, *Garden Book*. Thomas Jefferson Foundation, Monticello, Virginia.
- Jefferson, T.** 1816. To James Barbour, 5 March, 1816. In: E.M. Betts, p. 555–556. *Garden Book*, Thomas Jefferson Foundation, Monticello, Virginia.
- Jefferson, T.** 1819. To Vine Utley, 21 March, 1819. Library of Congress, Washington, D.C.
- Jefferson, T.** 1851. To Martha Randolph, 31 August, 1815. In: E.M. Betts, *Garden Book*.
- Jefferson, T.** 1897. Jefferson's plan of the oval and round flower beds, April 1897, reproduced and the text transcribed in E.M. Betts, *Garden Book*, Thomas Jefferson Foundation, Monticello, Virginia.
- Jefferson, T.** 1955. *Notes on the State of Virginia*. Edited by William Peden. University of North Carolina Press, Chapel Hill, North Carolina.
- Perkins, H.** 1939–1941. Unpublished diary of Monticello garden restoration in Monticello Research Library, Charlottesville, Virginia.
- Pinney, T.** 1989. *A history of wine in America*. University of California Press, Berkeley, California, p. 129.
- Tucker, G.** 1837. *The Life of Thomas Jefferson*. Carey, Lea and Blanchard, Philadelphia. p. 473.

In the vegetable garden at Monticello, his home in Virginia, Thomas Jefferson sowed seeds from around the world and shared them with farmers. He was not afraid of failure, which happened often. Credit... Jay Paul for The New York Times. Another lesson from Monticello is planting crops in a quincunx pattern. It is an efficient use of space, and the precise rows it creates "of parallels and diagonals" adds orderly beauty. Pat Brodowski, Monticello's head gardener, uses a compass and string to align beds and then sets her plants in the square, much like the five dots on a die. She uses a measuring stick to set the plants an equal distance apart, and as the beds are connected, the effect is one of perfectly aligned diagonals and perpendiculars. Vegetable Garden at Monticello Thomas Jefferson Foundation/Monticello. Jefferson, an avid horticulturist, also created the gardens at Monticello, which were a botanic showpiece, a source of food, and an experimental laboratory of ornamental and useful plants from around the world. He experimented with plant species brought over from Europe and was particularly interested in developing vineyards. Jefferson spent most of his retirement at Monticello writing and pursuing his political interests. Continuing his life-long commitment to education, he established the University of Virginia and design... He renovated the house and apparently kept it and the grounds in good condition until his death in 1858. Thomas Jefferson and Gardening. Contributed by Peter Hatch. Thomas Jefferson's interest in gardening arose from a passionate curiosity about the natural world. Enslaved gardener Wormley Hughes is regarded as Monticello's head gardener after 1800, but Jefferson's daughter Martha Jefferson Randolph and his granddaughters, as well as a series of European gardeners from Italy and Scotland, also assisted with the care of Monticello's fruit, vegetable, and flower gardens.