



Many strawberry varieties are native to Iowa and others — including the Progressive — originated in cross pollination experiments by nineteenth-century nurserymen. Frontier farmers frequently encountered native strawberry beds that stretched for hundreds of yards, their red fruit staining the moldboards of the pioneers' breaking plows. Montrose, in southeastern Iowa, is the center of the state's strawberry industry. (Prestele lithograph, SHSI)

Fruits in Iowa

A Brief History

by
Rosanne Sizer and William Silag

In 1882 Iowa State College Professor J. L. Budd travelled to Russia in search of apple trees. The long journey fulfilled Budd's grand plan to help Iowa nurserymen and farmers avoid the periodic disasters wrought by the prairie climate on the state's fledgling orchard industry. Although Iowa claimed a few native varieties of fruit trees — chiefly plums growing on the banks of shallow prairie rivers — the dearth of native varieties encouraged scores of nineteenth-century horticulturists to dabble in botanical innovation. These experiments drew on strains of French and English lineage from the stock of trees carried by frontier settlers from the orchards of New England and the Old Northwest to Iowa. Professor Budd reasoned that few of these varieties survived Iowa's bitterly cold winters and sunny hot summers because the lineage was all wrong. To find fruit for Iowa, he announced in the *Des Moines Register*, he would explore the orchards of the Russian steppes, the gardens of Central Europe, and the plains of Northern China. Funded by a grant from Canadian nurseryman Charles Gibbs, Budd spent several months abroad collecting seedlings to bring home to Ames. He returned with more than a hundred varieties of apples and several dozen types of pears and cherries, planting some of the seedlings in the college gardens and selling the remainder to Iowa nurseries.

Unfortunately, few of the Russian imports survived the 1880s in Iowa soil. Arctic winds in the winters of 1882-1883 and 1883-1884 killed nearly all of Budd's European transplants, and those that did live to bear fruit five or six summers yielded poorly. The heralded Russian apple trees came in too quickly in the Iowa summer heat, producing hard and often bitter fruit that offered no solution to the dearth of apples in the state's northern counties. Budd himself urged patience on the part of growers and turned back to his laboratory in Ames for further experiments with the imported strains.

Budd's trees were not the first transplants attempted in nineteenth-century Iowa. As early as the 1790s, French settlers along the west bank of the Mississippi planted small orchards to supply the river trade. Julien Dubuque probably planted Iowa's first apple tree, but Louis Henri Tesson should be considered the prairie's pioneer nurseryman. With stock supplied by his father, a St. Louis merchant, Tesson operated a small orchard near what is now Montrose, selling his produce to trappers, Indian agents, and military men. Like Dubuque's trees farther north, the bountiful orchards of Louis Tesson bore apples with a somewhat sour taste, adequate at least for the rough commerce of the pre-territorial era.

In the 1830s, as established farmers arrived in increasing numbers from Ohio, Indiana, and other states with commercial fruit crops, the consumer market along the Mississippi River frontier became larger and more selective. Territorial luminaries — men like Antoine LeClaire and George Davenport — made fortunes selling the produce of fruit trees clumped in scores and hundreds in various parts of the present-day Quad Cities area. Their sweet-tasting apples, produced in quantities that were huge compared to the harvests of their French predecessors, satis-



Isaac H. Page's Orchard Grove Farm (Montgomery County) as it appeared in the 1870s. In addition to his farm, Page operated a nursery, a grocery store, and the local post office. (A. T. Andreas, Historical Atlas of Iowa)

fied part of the growing demand for fruit in Iowa. But the pioneer farmer of the 1830s and 1840s wanted more than apples and grapes for his table; he longed for bountiful orchards of his own, orchards capable of cash crops. In southern Iowa particularly, it was not unusual for the frontiersman to have his cherry, apple, and pear trees in the ground even before he had broken the sod for his field crops.

The principal challenge, then, was not in finding a place for fruit trees on the frontier farmstead, but in locating an adequate supply of seedlings to meet the demand. Most of the first plantings involved seedlings carried by the pioneers from their native states, but nurserymen in the Old Northwest were not slow to see the opportunities for themselves in territorial Iowa. Robert Avery left his Indiana home for Burlington in 1836, carrying with him enough stock to open a nursery on the outskirts of the capital city. Throughout the antebellum years, Avery's gardens flourished, providing thousands of seedlings to farmers settling west of the Mississippi. The proprietor and his son probably experi-

mented with grafting and breeding, but the historical record is not explicit on this score; their nursery is typically described as a straightforward business venture. However, historians have had much more to say about the horticultural work of the Averys' chief competitor for the seedling market in southeastern Iowa in the territorial period, young Henderson Lewelling, another former Indiana nurseryman.

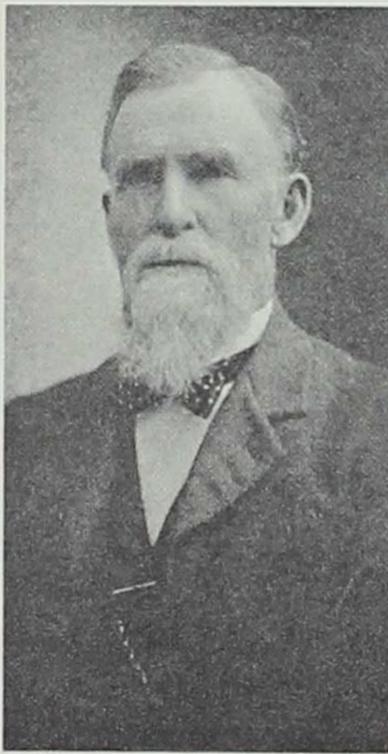
Lewelling has been called "Iowa's Johnny Appleseed," for his plantings along Cedar Creek near Salem yielded thousands of fruit trees. In addition to apples, Lewelling provided his customers with cherries, plums, peaches, grapes, quinces, and several types of berries, among them many varieties developed through grafting by the nurseryman himself. Despite his commercial success among the prosperous Quaker settlers of Henry and Lee counties, however, Lewelling's adventurous spirit convinced him that true fortune awaited him on the Pacific Coast. In April 1847, after ten years in Iowa, Lewelling loaded his wife and children — along with seven hundred grafted fruit trees

— onto seven covered wagons and headed for Oregon. Though he took with him much of the state's horticultural expertise, the restless nurseryman left behind a large body of useful information concerning the adaptability of various fruit strains to Iowa's peculiar climatic extremes.

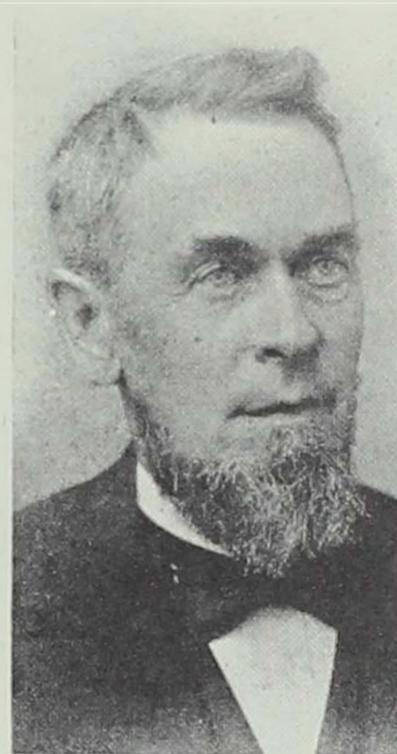
Nurserymen continued experimental work in the early years of statehood, and progress seemed certain. Local horticultural societies displayed their members' accomplishments at annual exhibitions held in communities throughout eastern Iowa in the decade before the Civil War. In 1853, future Iowa governor James W. Grimes won headlines with the prize-winning Golden Drop Plums and Northern Spy Apples he picked from trees at his Burlington residence. The 1854 State Fair in Fairfield — Iowa's first — exhibited a large variety of tree fruit and berries. By 1855, Iowa growers meeting in Burlington presented no less than 276 varieties of apples and 200 varieties of pears grown within the state's borders that year. Most observers believed this sufficient evidence that Iowa consumers would soon enjoy the large and dependable fruit harvests many of them remembered from New England and the Old Northwest.

Months later, the killing temperatures of a "test winter" dashed those expectations almost entirely. Thousands of fruit trees died — including hundreds of apple, plum, and especially pear and cherry varieties. The cold air, which remained below zero for weeks on end, split the trunks of some trees wide open. All but a few of the hardiest varieties exhibited at Burlington failed to blossom the following spring.

Such was the constant problem facing nineteenth-century Iowa nurserymen: though the sun and soil of the prairie rewarded all sorts of experimentation, a single arctic winter could destroy the horticultural advances of



C. G. PATTEN
1832-1921



J. L. BUDD
1835-1904

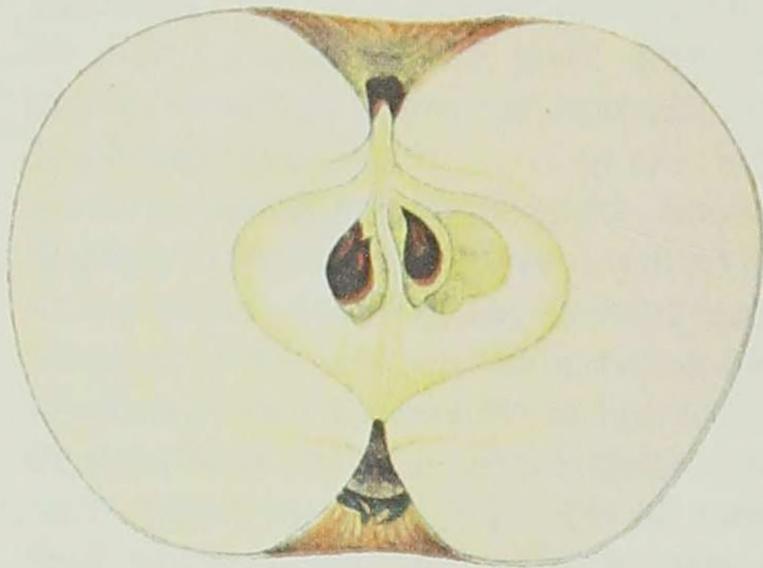
J. L. Budd (right) imported apple and other fruit-trees from Russia in the early 1880s. Charles G. Patten (left) doubted the adaptability of Budd's imports and advised Iowa nurserymen to concentrate on developing hardier fruit through careful selection of seeds produced in Iowa soil. (SHSI)

a decade. This had occurred in 1843-1844, and it would happen again in 1865-1866 and in 1872-1873. Fruit prices remained high — usually more than one dollar per bushel of apples, for example — throughout the Civil War period, which encouraged fruit growers to keep trying to unlock the secrets of natural selection. Yet only rarely did the experimenters manage to match desirable taste, size, and texture characteristics with the hardiness necessary to guarantee an Iowa fruit harvest each year. In this light, Professor Budd's proposals were hardly outrageous. Budd had been growing fruit commercially in his Benton County orchard since 1859, and he knew full well the constraints of the prairie environment. But if the Tetofski Apple and other Moscow strains survived the cold winters of the Russian steppes, then perhaps they could also withstand the arctic winds that blasted

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*Imported into Iowa: from
the Czar's fruit garden and
elsewhere*



Three transplants: The Windsor Apple (left), which originated in Wisconsin in the 1880s, is hardy and prolific, though less popular among Iowa growers than the Delicious, the Jonathan, or the Wealthy. Hundreds of apple varieties have been attempted in Iowa, dozens of them successfully. By the end of World War II, Iowa ranked sixth among the states in apple production. The black fruit of the Hannibal raspberry (right), a vigorous native American variety, ripens late in the summer. The exotic Zengi (center), one of several persimmons imported from Japan in the 1880s. Iowa nurserymen had limited success with persimmons, which proved better suited to the milder climate of Arkansas and other states to the south. (Prestele lithographs, SHSI)



Jesse Hiatt's Apple Tree

Ironically, the best-known of the Iowa fruits originated in a chance seedling that grew up outside the laboratory. The Delicious apple, now the nation's most popular variety, was a fortuitous fluke of nature. Jesse Hiatt discovered the original Delicious seedling growing — out of the row — in his Madison County orchard in 1870. Hiatt cut down the small plant, but it reappeared the next year in the same place. In deference to its persistence more than anything else, Hiatt began to tend the seedling. Over the years, the young tree withstood summer heat and winter cold better than its older neighbors, and beginning in the 1880s it bore fruit that the usually taciturn Jesse Hiatt declared the finest tasting apple in the world.

For years Hiatt travelled the county fair circuit, showing off his strawberry-colored "Hawkeyes," as he had named them. In 1893 nurseryman C. M. Stark picked one up at a fair in Louisiana, Missouri. After some confusion at the judging tent — Hiatt's apples were packed up before Stark found the grower's name and address — Jesse Hiatt sold Stark the propagation rights to his Hawkeye. In the next twenty years, the Stark Company sold millions of Hawkeyes — renamed "the Delicious" — throughout the nation. Obviously, American consumers agreed with Jesse Hiatt's judgment on the apple's wonderful flavor.

Iowa in mid-winter. Certainly it was worth a try, he reasoned.

Charles Grandison Patten of Charles City had been skeptical of Budd's foreign excursion from the start. Patten argued that the development of fruit trees suited to the prairie environment depended on breeding hardier strains from seeds produced in Iowa soil. There could be no shortcuts. "Plant the seeds of the best," he advised the state's nurserymen, and — he might have added — "be patient." Patten began breeding fruit by "selection," that is, by planting seeds and replanting their offspring, soon after his arrival in northern Iowa from Wisconsin in 1864. Slowly his labors paid off in varieties that could be planted with confidence in the state's northern counties. The Patten Greening Apple, the first new variety he originated through seed selection, gave area farmers a sturdy green fruit that made up in dependability what it lacked in glamour. In later years, Patten began to cross selected strains by hand pollination, the first Iowa horticulturist to do so. The results were impressive, and included Patten's Plum (a cross of native and imported strains) and Patten's Pear (another cross, this one able to withstand temperatures as low as minus forty degrees Fahrenheit). Wary of imports from "the jungles of the Czar's fruit garden," Patten demonstrated how Iowa growers might best come to terms with their environment.

The controversy surrounding Budd's unsuccessful effort to plant Russian seedlings in Iowa led to a rift within the state's horticultural society between his defenders and proponents of Patten's techniques. This was most unfortunate, for the two men had actually moved quite close to one another in terms of scientific method. Budd's subsequent laboratory work with the Russian fruit in the mid-1880s revealed their utility as parent stock in the breeding of hardier

strains through hybridization, precisely the direction Patten's researches had taken after 1880. Furthermore, and despite the dispute between their respective followers, the rise of the two men to prominence signalled an important forward step in the character of laboratory experiments on Iowa fruit. Budd and Patten were primarily researchers; though each man owned a nursery, it may be said that neither sought profit as his chief goal. In Ames, in Charles City, and eventually at experiment stations throughout the state, they provided models for the type of systematic research necessary to give nurserymen and farmers sound advice on planting for maximum yields.

In this scientific enterprise, there was no one "correct" approach. Through grafting, seed selection, hand pollination, and a varie-

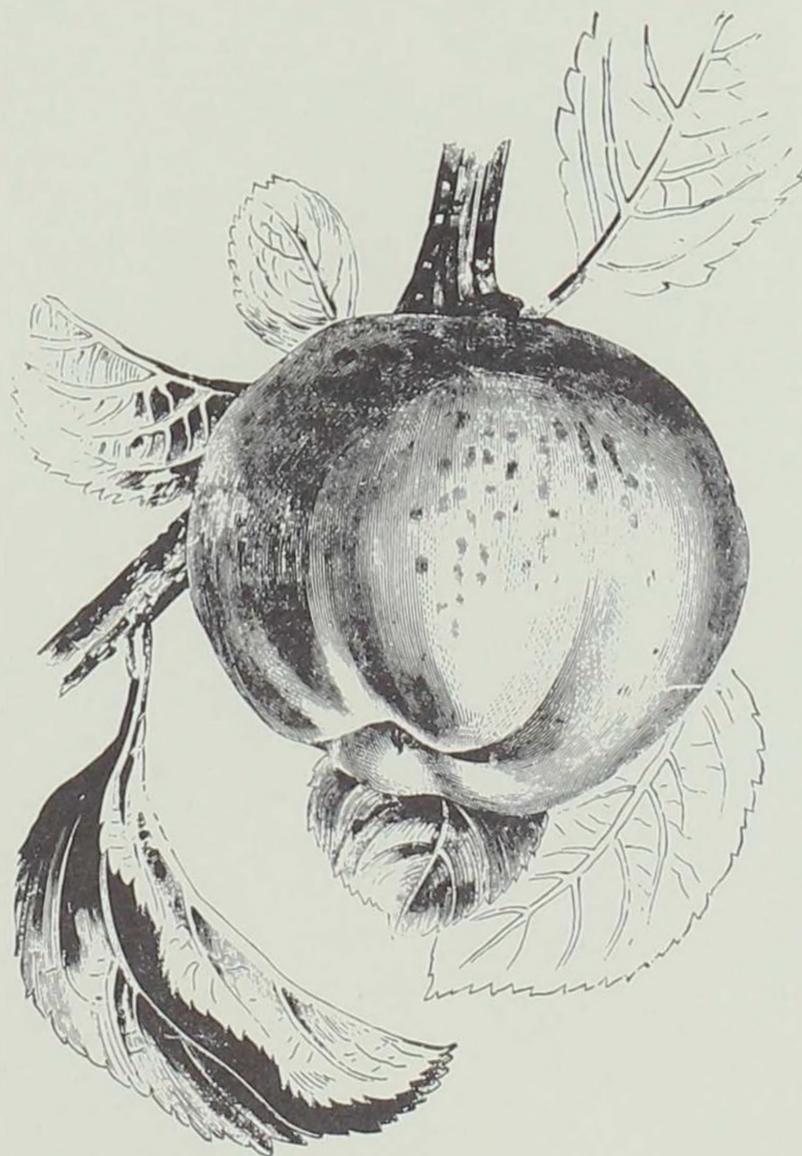
ty of newer laboratory breeding methods, the horticulturists of the 1880s and after helped enlarge Iowa's annual harvest of apples, pears, plums, cherries, raspberries, and other fruits. Even Budd's much-abused imports contributed to the increased output, as his Russian plums and European Yellow Glass cherries adapted well in certain Iowa counties. By 1910 the state ranked sixth in the nation in apple production, and three out of four Iowa farms had home orchards. After the turn of the century, growers also produced millions of dollars worth of plums, pears, strawberries, and other fruits each year. Such bounty is tangible evidence of the early horticulturists' skill and enterprise, but it is only one measure of their important contributions to the making of Iowa's modern agricultural economy. □

The Tetofski Apple, one of several fruits imported from Russia in the early 1880s by Professor Budd, was better suited to the drier climate of the Dakotas than to the Iowa prairie. Though few of Budd's imports succeeded, they did prove useful to horticulturists seeking hardier strains through fruit breeding experiments. (SHSI)

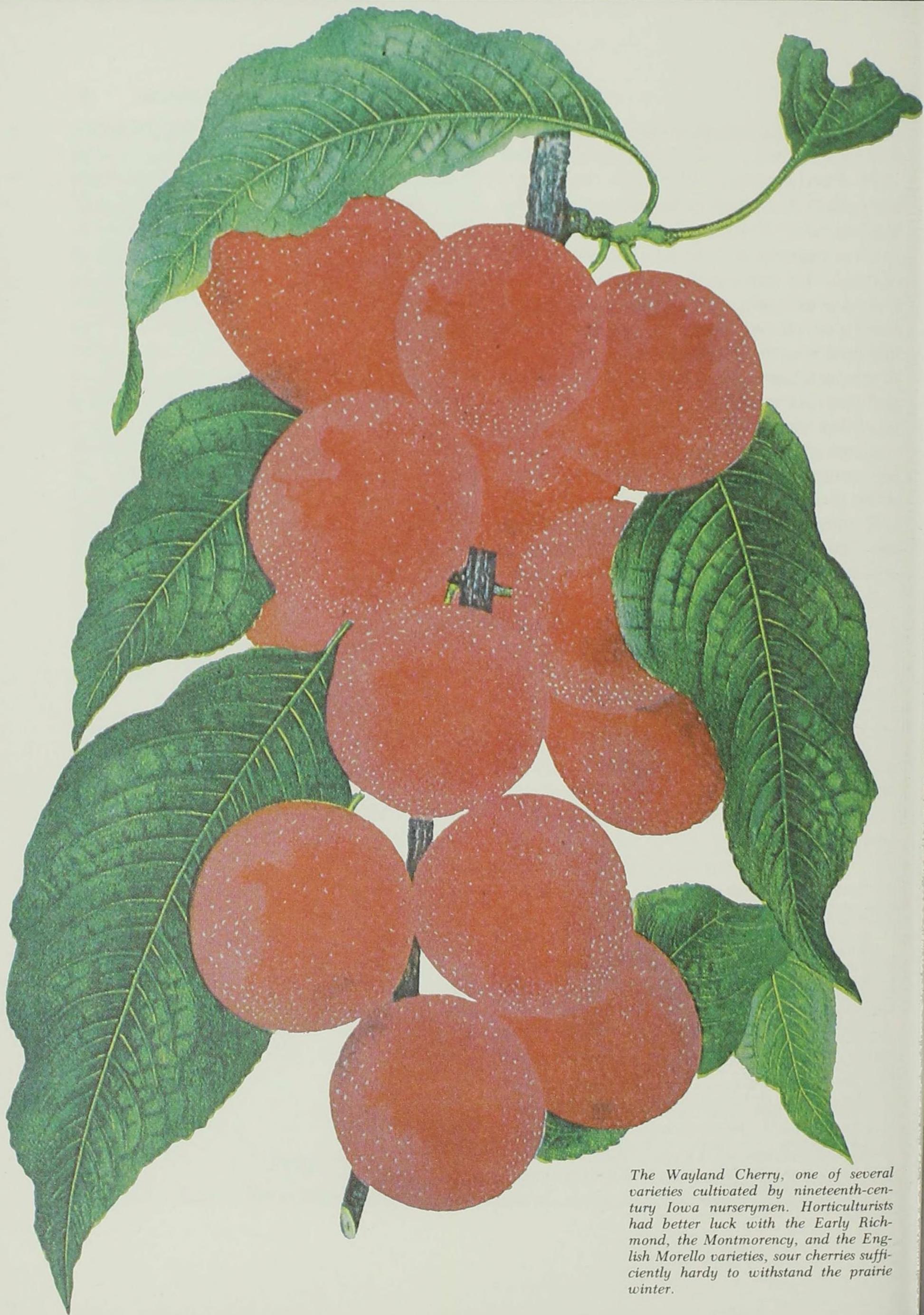
Note on Sources

The best introduction to the topic of fruitgrowing in nineteenth-century Iowa is Kent Pellett, *Pioneers in Iowa Horticulture* (Des Moines, 1941). Pellett's little book is packed with information about early horticulturists and nurserymen. Other sources for this article include: H. B. Lantz, *Tree Fruits for Iowa* (Ames: Agricultural Experiment Station, Iowa State College of Agriculture and Mechanic Arts, 1935); B. S. Pickett, et al., "Growing Fruits, Vegetables, and Flowers," in *A Century of Farming in Iowa, 1846-1946*, ed. Iowa State College Staff Members (Ames, 1946); H. E. Nichols, "Iowa State Horticultural Society," *The Palimpsest*, 47 (July 1966), 257-320.

The Prestele lithographs appeared originally in the annual reports of the United States Department of Agriculture for 1886, 1888, 1889, 1890, and 1892. They are discussed in Joan Liffing, "Iowa's Forgotten Lithographers," *The Iowan*, 12 (Winter 1964), 24-32. The editor wishes to thank Robert A. Ryan of Dennett-Muessig Associates for photographing the Prestele lithographs for publication.



THE TETOFSKI APPLE.



The Wayland Cherry, one of several varieties cultivated by nineteenth-century Iowa nurserymen. Horticulturists had better luck with the Early Richmond, the Montmorency, and the English Morello varieties, sour cherries sufficiently hardy to withstand the prairie winter.

The Prestele Lithographs

From the Bavarian court to the Inspirationist community in Amana and to the federal bureaucracy in Washington, D.C., the Prestele family carried on a tradition of artistic excellence in lithography throughout much of the nineteenth century. Joseph Prestele and his sons — like their more famous contemporaries, the firm of Currier and Ives — presented Americans with stunning, lifelike representations of fruit and flowers long before color photography.

The Prestele tradition in lithography originated in the gardens of the king of Bavaria in the 1820s. King Ludwig, recognizing the artistic talent of one of his gardeners, Joseph Prestele, sent him to the University of Vienna, where he studied art and lithography. In 1837, Prestele joined the Community of True Inspiration, an action that eventually led to his emigration to the United States. In the 1840s and early 1850s Prestele, who had settled in the Inspirationist community in Ebenezer, New York, was commissioned to produce realistic fruit and flower

prints for the federal government, the Smithsonian Institution, and numerous private companies. By 1858, he had moved with his family to Amana, where he tutored his sons in the art of lithography while continuing his own artistic endeavors.

Although Joseph Prestele, Sr. died in 1867, his lithographic tradition was carried on by at least two of his sons throughout the latter half of the century. Gottlieb remained in Amana and continued his work there. Much of the fine lithographic work done in the colonies has been attributed to him. William left Amana, resided for a time in Iowa City and Bloomington, Indiana, and finally settled in Washington, D.C., where he worked as a lithographer for the Department of Agriculture. William Prestele's color lithographs, mostly of cultivable fruits, accompanied the department's annual reports on the status of American agriculture.

The Presteles brought fine craftsmanship to lithography, an art form that was increasingly in vogue during the mid to late 1800s. The lithograph,

a print made by transferring to paper an inked image drawn with grease on a stone or metal plate, had the advantages of offering a wide range of tonal values and being exceedingly faithful to the original drawing. As true artists, the Presteles took great care with the lithographic process. First, the image was drawn in reverse on a plate of stone with crayon or ink. The plate was then washed with a water-based solution, which covered the entire plate except the water-resistant image. Next, the lithographer applied an ink that adhered to the image area but not to the rest of the plate. Finally, paper was pressed against the plate and, when it was removed, the image was seen in its proper form.

The Presteles' lithographs are vivid images of nature at her best; the colors are vibrant, the proportions are scientifically accurate, and the arrangements are superb. But the lithographs are not really meant to be described; they are meant to be seen and enjoyed.

—Rosanne Sizer