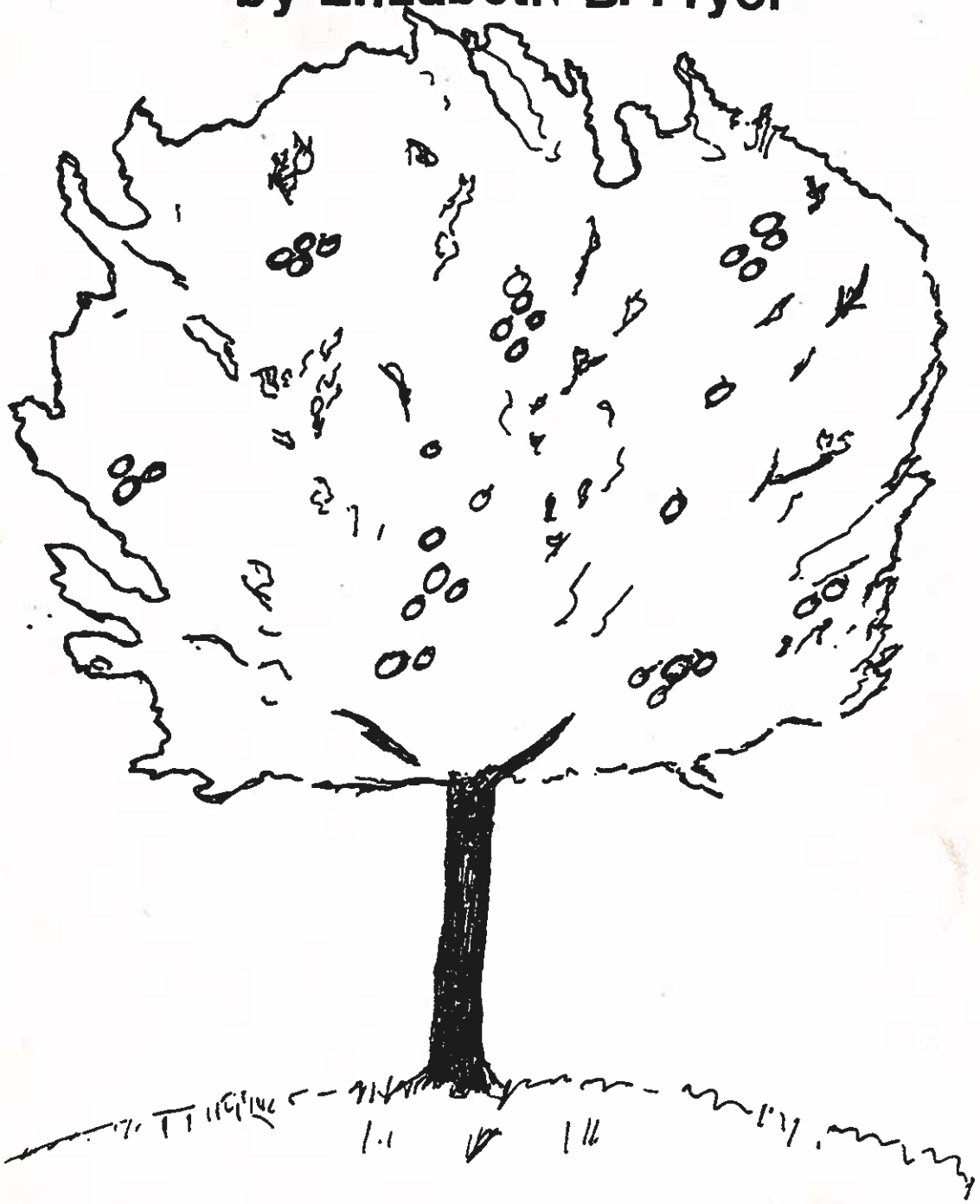
ORCHARD FRUITS IN THE COLONIAL CHESAPEAKE

by Elizabeth B. Pryor



NATIONAL COLONIAL FARM

Research Report No. 14

The Accokeek Foundation

ACKNOWLEDGMENT

Funding for the research and writing of this paper was provided by a grant from the Wallace Genetic Foundation.

ORCHARD FRUITS IN THE COLONIAL CHESAPEAKE

by
Elizabeth B. Pryor

Good fruite and good plenty doth well in thy loft:
Then lay for an orcharde, and cherishe it oft.
The profit is mickell, the pleasure is mutch;
At pleasure with profit, Few wise men will grutch.(1)

Thomas Tusser
Five Hundred Pointes of Good Husbandrie, 1557

The settlers, who in 1634 first saw the land that was to become Maryland, were astonished at its fruitfulness, much as their counterparts at Jamestown were two decades earlier. Hardwood trees, increasingly rare in the English landscape, were abundant, and a wide variety of native fruit was evident. Mulberries grew wild, as did cherries, plums, persimmons, pawpaws, and grapes.[2] Robert Beverely, who took painstaking notes on the natural advantages of the Virginia colony, described three kinds of cherries, six indigenous berries, and two kinds of plums.[3] Indians were discovered who cultivated the peach tree. It was at first thought that this too was an indigenous fruit, but it is now believed to have been introduced to Florida by the Spanish in the sixteenth century, and to have slowly spread across the eastern coast of North America.[4] Indeed, wild fruits were so much in evidence

that one zealous early settler declared that the colonists should "not...think so much of planting fruits and trees in a land so fruitful, as of sowing the seedes of religion and piety."[5]

Few of the early settlers heeded this pious warning. On their first voyage, they brought seeds and kernels of fruit from England and planted them immediately as a guard against the famine which had plagued the first Virginia settlements. Lord Baltimore listed fruit seeds among the articles he desired those sailing for Maryland to carry, specifying that they should take the "Kernells of Pears and Apples (especially of Pepins, Pearemains and Deesons for making thereafter of Cider and Perry;) the stones and seedes of all those fruits and rootes and herbes which he desireth to have."[6] The area was well adapted to the transplanting of European orchard trees, and vistors traveling in the Chesapeake less than twenty years later were struck by the prevalence of fruit. "English fruits that have been transported bear wonderfully and twice as fair as in England," wrote one enthusiast, "and in deliciousnesse farre exceeding what they were before...."[7] John Hammond, another who was impressed by the advantages of the region, termed Maryland and Virginia "two fruitful Sisters," and eagerly described the "gallant orchards" which flourished

there.[8] From this time forward such descriptions abound; scarcely did a traveler pass through the colonies without mentioning the beauties of the large fruit trees. "All the inhabitants of this place, from the highest to the lowest, have their own orchards, which are larger or smaller according to their wealth. The trees in them are chiefly peach, apple and cherry," wrote Peter Kalm in 1748.[9] Fourteen years later a British army officer who visited Annapolis, enroute to Philadelphia, jotted in his journal: "The Country from this Town to the Great and Noble City of Philadelphia is extremely pleasant...fruitful and full of Orchards...."[10] William Eddis, an astute observer of the Maryland scene, declared that "Throughout the whole of this province fruit is not only plentiful, but excellent in its various kinds. There are few plantations unprovided with an apple and a peach orchard...."[11] And in 1729 an unknown resident of the colony, waxing poetic, offered this description of the Chesapeake Bay area in Maryland Gazette:

> The verdant Earth here shews a cheerful Face:
> This fruitful Soil with richest Grass is crown'd,
> And various Flow'rs adorn the gawdy Ground:
> (Neglecting Order) Nature plants this Land,
> And strews her Riches with a lavish Hand;
> With Fruit her Bounty cloaths each well-deck'd Bush
> The luscious Cherries on the Branches blush.
> Here silken Mulb'ries load the bending Boughs,
> Here currants, Peaches, Straw'ries, Nature tends
> And other Dainties to the Hero lends.12

A number of forces worked to make orchards such a common sight. As mentioned previously, Lord Baltimore himself encouraged the cultivation of fruit, as a necessary part of keeping alive in the wilderness. The seventeenth century distrust of drinking water, exacerbated by the brackish creeks which flowed from the Chesapeake Bay, and the dearth of common liquors, made fruit beverages especially attractive--in fact most peaches, apples, and pears were consumed in liquid form. Orchards spread rapidly on tenanted land, for large property owners were anxious to improve their holdings by the planting of fruit trees. Many leases required only a token rent payment if the tenant would establish and maintain a specified number of trees. When Frances Barnes rented 250 acres of land in 1652, his landlord legally bound him to "plant the said Land this next Ensueing Year and to plant an Orchard of twenty Apple Trees, ten pear trees, twenty peach trees and twenty Cherry trees and to make a fence around the same and keep it in Repair."[13] Another seventeenth century Maryland proprietor required that two hundred trees be planted by the tenant, and that half be summer fruit and the other half winter fruit.[14] Charles Calvert specified the planting of two hundred apple and pear trees in a lease dated July 27, 1665.[15] As late as 1761 Maryland tenants were expected to improve their

landlord's property in this way. David Layfield signed documents in that year which required him to plant within five years,

> an Orchar(d) of one Hundred Good Apple Trees at the Least.... and the said Orchard is to be planted within fence carefuly keep secure and Prosperos so as the same shall not be spoiled or Determented and when and so often as any of the said Trees shall Decay or be Destroyed by an Accident Whatsoever Others in the place and stead of Such as shall be Destroyed to keep and Profess so as that at the Exporation of the time Herein before Limitted there shall be and Remain the full number of one Hundred bearing Apple trees in good order....[16]

Sir Robert Eden, the proprietor of this land, was not unusual in specifying the type of cultivation he required in the orchard. Thomas Gerrard of Charles County charged his tenant to "plant soe many Apple trees and Peare trees as should be requisite for the filling up of the Orchard already planted & prune the trees of the Orchard and cleanse the said Orchard from Brush and underwoods."[17] George Washington was even more specific. When in 1774 he leased some land in Berkley County, Virginia, he noted that the two hundred apple and peach trees he required should be planted forty feet apart each way, that they should be protected from cattle, and kept well pruned.[18]

Landlords were concerned with the monetary value, appearance, and settlement of their lands. But orchards represented something else: a commitment to the land, and an energetic spirit in their tenant. It took at least seven years for seedling trees to bear fruit, and the patience needed for their cultivation indicated a stability which was highly prized by the proprietor. More than one observer admonished the community-minded to apply themselves to their orchards. Writing from London in 1597, John Gerarde noted that the God-fearing always planted orchards--"the cost is nothing, the commoditie is great, yourselves shall have plentie the poor shall have somewhat in time of want to relieve their necessetie; and God shall reward your goode minde and diligence."[19] William Byrd reiterated this sentiment in 1728 while surveying the boundary line between Virginia and North Carolina. Criticizing the Carolineans for being too preoccupied with money to plant fruit trees, Byrd--who himself cultivated extensive orchards--wrote sanctimoniously: "It is an observation which rarely fails of being true, both in Virginia and Carolina, that those who take care to plant good Orchards are, in their General Characters, Industrious People."[20]

The general picture then, is one in which orchards were a characteristic and necessary part of the colonial farm or plantation. Certainly they gave the

countryside the appearance of a "Flowery Garment" in spring and "good plentie" in autumn.[21] It is difficult, however, to determine exactly how many farms boasted an orchard, and how many trees an individual farmer maintained. Gregory Stiverson, who has studied in detail the tenancy patterns in eighteenth century Maryland, found that although orchard plantings were required by landlords in nearly every county on the lower Western Shore, only about 50 percent of the tenants fully complied with the lease. Most, however, planted at least a few trees.[22] A survey of plantations advertised for sale in the Maryland Gazette between 1728 and 1774 reveals that nearly 93 percent contained orchards.[23] Similar findings for Virginia have been compiled by Edward Ayres in a study of fruit culture done for Colonial Williamsburg. As Ayres notes, the figure may indeed be higher, for farms advertised without specific reference to orchards may well have contained trees in numbers too insignificant to mention.[24] The number of trees on the estates advertised varied widely. In Maryland a farm of 329 acres, listed in 1729, contained 200 trees; another of equal size, advertised in 1766 boasted only half that number.[25] Large plantations generally held extensive orchards. In 1767 Zachariah Manor in Charles County included 3,000 apple trees, 1,200 peach trees, and a

grove of six cherry trees.[26] Across the river William Fitzhugh cultivated nearly 2,500 trees, the majority of which were apple.[27] At the other end of the scale were those who tried to subsist with only a handful of fruit trees. A court held in 1740 in Lancaster, Pennsylvania advised charitable groups that the produce of six or seven trees was essential for the maintenance of one person; those without such resources would have to buy cider and apples at what were frequently ruinous prices.[28] Ayres found in Virginia that the average farm had 250 to 300 trees. The records of the Maryland Gazette indicate a number closer to 200 for that colony.[29] Most likely the inventory of the Maryland plantation of Thomas Marsh, taken in the 1730s, was typical of the middle-class farm. The farm contained 340 acres, a new brick house and slave quarters, two tobacco barns, a milk house and old cow house, and 198 apple trees.[30]

CULTIVATION

The orchard was a distinct part of the farm, usually planted a little way from the house, and enclosed by a fence.[31] Gardens often contained a few fruit trees, especially on the more prosperous plantations, and some enterprising farmers experimented with scattered groves, or lines of trees separating fields. (Thomas Jefferson was one such experimental

farmer; he found that rows of peach trees set between fields not only improved the appearance of his land, but resulted in an abundance of fruit.)[32] Most fruit production, however, was done on land set aside chiefly for that purpose.

Nearly every orchard had a fence. It was erected to keep out livestock as well as wild animals such as deer and rabbits, which nibbled the branches of young trees, tore up the ground, or disturbed the setting fruit. Many landowners considered the construction of an orchard fence important enough to be required in their leases.[33] The most common fences were of split rails--often walnut or chestnut. George Washington had such a "worm" fence around both his apple and peach orchards.[34] William Fitzhugh invested in tough locust rails to enclose his orchard.[35] Landon Carter was so incensed by the injury done to his orchard "by the sows and piggs" in 1771 that he erected a high fence of woven wattles to deter them, and locked it with an especially tight gate.[36] Carter also had a double ditch around one of his orchards to provide drainage. This too was common practice on low lands, for the roots of young trees rotted easily, and several varieties of cherry, pear, and peach trees bore poorly with too much moisture.[37]

A number of orchard grounds were given dual duty, by planting grass crops or legumes under the trees. This was possible only where the trees had been placed far enough apart to admit sunlight, and many orchardists purposely set their seedlings at great distances in order to double the yield of this land. Crops were most effective when they did not require constant ploughing that could injure the roots of the trees, and when they ripened well before the mature fruit began to fall. Corn, for example, was an unsuccessful partner in the orchard, for it robbed the soil of nutrients essential for fruit bearing and required continual cultivation that was both awkward among the trees and irritating to their roots. It also ripened at a time which exposed it to damage from falling fruits, and made the fruit harvest nearly impossible.[38] Washington sowed barley, rye, hemp, and wheat under his orchards in the 1760s, and Landon Carter experimented with tobacco in 1772.[39] Thomas Jefferson instructed his overseer to sow the orchard ground with Ravenscroft peas and potatoes. Robert Lloyd in Kent County, Maryland tried oats and turnips.[40] Another Maryland agriculturalist, John Beale Bordley, found that hops, white clover, or grasses on which sheep could graze, formed the best marriage with fruit trees.[41]

It is probable that most of the orchards around the Chesapeake Bay had a neglected appearance. Travelers frequently remarked on the lax attitude farmers held toward fruit cultivation. Horticultural manuals might argue over the virtues of clay soil, protected hillsides, bottom lands, or old stubble fields for orchards, but colonists generally planted fruit trees on land that was conveniently situated or poorly suited for other crops. The climate favored fruit culture so well that the trees seemed to thrive no matter where they were set, or how carefully tended. Robert Dickson, traveling in the area in 1785 noted that orchards were often planted on "the Very meanest and hilly Lands...."[42] Worn orchards were left to die, since the land was plentiful enough to begin a new orchard on fresh acreage--as another foreign visitor observed, the "people prefer to avoid the trouble of ploughing up the old land and improving it by manure and stirring." John Beale Bordley noted that he had seen Maryland farmers plant their trees in "the sandy lands of Severn River, in the country about Anapolis, and also in clay loams in the peninsula of Chesapeak; where they were in old fields...." Remarkably, all of the trees seemed to thrive.[43] Another writer noticed the poor soil around Marlborough, Maryland, but still saw "plenty of fine Orchards," a surprising fact since he observed that the residents "generally plant a Peach

Orchard on the worst land."[44] In addition, several men thought that the orchards looked as if they were poorly maintained or infrequently pruned. They were equally lax in their choice of fruit varieties. Said one disappointed German traveler: "the American cares little for what does not grow of itself, and is satisfied with the great yields of his cherry, apple and peach trees, without the thought to possible and often necessary betterments."[45]

With fruit produced in quantities so great that it was fed to hogs, the farmer of Maryland or Virginia probably did spend his energies on other matters. One thoughtful citizen laid the blame on the colonists' obsession with tobacco production, and the British merchants' encouragement of specialization in that crop. "Tobacco is the only production in which planters employ themselves," wrote Jasper Danckaerts, a leader of a Labadist colony in Maryland:

> as if there were nothing else in the world to plant but that, (even) while the land is capable of yielding all the productions that can be raised anywhere, so far as the climate allows.... A few vegetables are planted, but they are of the coarsest kinds and are cultivated in the coarsest manner, without knowledge or care, and they are therefore not properly raised, and do not amount to much as regards the production, and still less as to their use. Some have begun to plant orchards, which all bear well, but are not properly cultivated.(46)

Governor Hart of Maryland concurred, as did Benedict Leonard Calvert, who in 1729 remarked: "Tobacco is our staple, is our All and indeed leaves no room for anything else; it requires the attendance of all our hands and Exacts their utmost labour, the whole year round...."[47] Others thought that the convivial country life of Maryland discouraged serious agricultural pursuits. After twenty years of lonely agricultural experimentation, John Beale Bordley wrote in exasperation that most of his neighbors were

> idle improvident people, masters of farms, who spend their time in taverns or other places of wasteful amusement: any where rather than at home....Such a people can never be brought to ...improve their farms...they mount their horses and hurry to the tavern, the race, the ninepins, billiards, excess upon excess of toddy, and the most nonsensical and idle chat, accompanied with exclamations and roarings, (as) brutal and foreign to common manners as the mind of wisdom can concieve of depraved man.(48)

Peter Collinson, an enthusiastic student of American agriculture, was also struck by the lack of serious agronomy in Maryland. Writing to the great horticulturalist, John Bartram, in 1737, he advised him to forego any visits to plantations in that colony, for "of all my friends in Maryland, I know none that are curious in our branch of knowledge."[49]

Collinson was not, of course, wholly accurate in his observations about Maryland. Many planters owned books on agriculture, and exchanged plants and information with their fellow farmers. William Digges of Prince George's County was one who maintained a lively interest in experimental farming; among his colleagues was George Washington, to whom he sent apple slips in 1765.[50] Edmund Lloyd's Kent County library contained seven books on husbandry in 1781, among them Arthur Young's Annals of Agriculture and the Compleat Farmer.[51] George Washington relied on the advice in Henry Home's The Gentleman Farmer, and no doubt shared its wisdom with his acquaintances across the Potomac.[52] Scholars studying the libraries of the colonial period have found that the works of Thomas Tusser, Richard Bradley, William Bucknall, and Batty Langley were popular throughout the South.[53]

For those who cared to enquire into horticultural subjects, these books and others like them offered an abundance of information on planting, grafting, pruning, and general care of fruit trees. Together with the information available in diaries and traveler's accounts they give a detailed picture of the care an orchard could receive at the hands of a dedicated farmer such as Bordley, Washington, or Jefferson. Doubtless some of the information filtered

down to men with small farms and middling ambitions. Possibly even the poorest farmer learned a few of the techniques of grafting, of mellowing apples to produce superior cider, or of the difference in pruning pear and peach trees.

English garden books predominated--most Chesapeake colonists seem to have ignored the superior methods of the dedicated Germans who settled near them.[54] Despite the discrepancy between conditions in England and America, few treatises on New World gardening appeared before American Husbandry was published in 1774, and even this work was largely ignored. The British manuals, of course, had to be adapted to differing North American conditions, the most dramatic of which was climate. England featured mild winters and cool, wet summers, whereas the farmer in Maryland or Virginia had to contend with dry spells, a more pronounced winter, and at least four months of subtropical heat. Because of this, most fruit trees in America were free-standing, whereas the British specimens, especially those of the more delicate fruits such as apricots, were generally placed against walls, or espaliered. Only in more formal gardens (for example those at Mount Vernon) were fruit trees treated thus in the Chesapeake region. As John Lawson wrote in 1770 in his New Voyage to Carolina, "All Peaches, with us, are standing;

neither do we have any wall-Fruit in Carolina; for we have Heat enough, and therefore do not require it."[55] The other major effect of climate was to hasten the ripening of the fruit, and the time of budding in the spring, requiring the farmer to devise a work schedule differing by several months from those offered by the English agriculturalists.

* * * *

Fruit trees were first propagated by seed or kernel in the Chesapeake area. It was by far the easiest way of exchanging or shipping the potential tree from England, and involved considerably less work than grafting or budding. Both of the latter methods of propagation required stocks on which to graft, and these also were raised from seed. In his History and Present State of Virginia, Robert Beverley maintained that the trees flourished so well on their own that they did not need to be grafted, and that he had never heard of anyone performing this operation "before the first edition of this book" (1705).[56] Twenty years later, a professor at William and Mary College echoed Beverley's observation. "The Peaches abound...," wrote Hugh Jones, "and the Apple trees are raised from the Seeds very soon, which kind of Kernal Fruit needs no grafting and is diversify'd into numerous Sorts...."[57]

Even after grafting became common practice, many trees were started by seed, both for convenience and in an attempt to reproduce the variety of a particularly succulent piece of fruit. Such notable horticulturalists as John Custis tried occasionally to raise trees by seed.[58] As late as 1807 Thomas Jefferson still planted peach stones, and a memorandum in the account book of the Wilson family's Maryland estate for January 16, 1772 reads: "...then Planted 160 very late Soft peach stones from S Well in three rows crossways."[59]

Wilson's method of planting the seeds in rows was generally the one followed, though occasionally whole fields were strewn with peach kernels, which were simply thinned as they sprouted. Serious farmers set aside a space for a nursery, often in an old field. Landon Carter, for example, started his seeds in a former carrot patch.[60] Ideally the soil was worked to created a fine, pulverized bed. Garden books differed greatly on the best soil for the seeds. Light dry earth was recommended by Philip Miller in the Gardener's Dictionary, which was something of a Bible to the colonial planter. He was also in agreement with Henry Home, who advised against using manures. Batty Langley, however, specifically recommended that horse dung be spread through the planting area in October,

and that it be placed between the nursery rows to keep the soil warm in winter and moist in spring.[61] Peach kernels were to be set three inches deep; apple and cherry stones were to lie under a loose half-inch covering.[62]

Most authors advised that autumn was the best time to plant seeds. "With respect to the time of sowing, the best rule is, to imitate nature, by sowing when the seed is ripe," read one account.[63] Practical experience seems to have borne this out. George Mason, writing to Thomas Jefferson in October of 1780, advised him to plant the peach stones he had sent as soon as possible, for if the planting was deferred they would not come up.[64] Many seeds were procured from pressing for cider or mobby, cleared of pulp, and planted immediately thereafter. George Washinigton sowed seeds by simply strewing apple pommace in the garden. During mild winters it was possible to plant seeds up until February.[65] Several books recommended covering the beds with leaves or dung to guard against frost.

After sprouting, the seedlings were to be thinned and well watered. Most were kept in the nursery for at least two years.[66] During this time the tap root was cut to encourage lateral root growth; one book even recommended that tiles or boards be placed below the tree to inhibit its growth. Not until the seedling was

the "thickness of a tobacco pipe" was it ready for transplanting. Stocks planted for grafting were kept in the nursery until they were one-half inch thick.[67] Occasionally, the trees were pruned while still in the nursery. John Beale Bordley, writing in 1799 from Maryland, advised "taking off perfectly close, all rambling and unsightly branches, leaving the heads to three or four good leading shoots." His colleagues in England by and large agreed. Henry Home, for example, thought that lateral branches which were likely to interfere with the growth of the stem ought to be removed, and if too many branches appeared, they should be thinned.[68]

The techniques of grafting had been known for hundreds of years, but did not become commonplace in the Chesapeake region until the second third of the eighteenth century. Most of the seed stock in America was heterozyeous in its genetic makeup, and thus did not produce trees that were true to type. This resulted in a number of excellent varieties being established spontaneously--the Newton Pippen apple is a notable example--but left many farmers frustrated in their attempts to exactly reproduce certain types of fruit. Grafting, and budding or "inoculating", though time consuming and requiring a certain amount of skill, produced healthy trees of predictable varieties. John

Custis used the technique in the 1730s, and Washington employed it extensively thirty years later.[69] U.P. Hedrick, who studied the horticulture of the region, believed that by 1750 it was the most common form of propagation.[70]

Grafting generally took place in March. Not only did the myriad gardening books suggest this month, but the diaries of Washington, Philip Fithian, Landon Carter, and others show that it was the ideal time for the procedure.[71] The initial step involved selecting branches, or scions, from healthy trees of the desired varieties. These were kept moist in wet earth while preparation of the stock took place. Gardener's manuals cautioned against casual selection of the scions, for poor parent stock would not produce satisfactory trees. "I would therefore recommend it to all curious Persons," wrote Philip Miller, "to produce their Buds from such trees as have been long growing, whose Fruit are well-flavored, and the Trees perfectly sound; also never to make choice of the strongest or most luxuriant Shoots of these Trees, but such Shoots as are well-conditioned and whose Buds grow pretty close together." He further advised that the cutting be taken in the morning or evening.[72]

Two methods of grafting were recommended in eighteenth century horticultural manuals. The first of these, called splice-grafting, was especially

successful on small trees. A long cut was made in the stock at a 45° angle, and a neat notch cut midway into it; the V of the notch pointing straight down. A corresponding section was cut in the scion, preferably against a bud. The two were then fitted together, and bound with linen or Bass-matting. Stock grafting, used chiefly for apple and peach trees, also involved an initial cut at a 45° angle in the stock. The top was then levelled off and a deep cleft made in the level portion with a pruning knife and mallet. The scion was cut into a long wedge made to fit into the cleft. After placing it as evenly and smoothly as possible, it was bound as in splice grafting. Batty Langley, who described these methods in a fruit garden manual entitled Pomona, stated that generally the bandages could be released by May. He, like other authors, believed shorter, more uniformly budded scions preferable to over-long or heavily laden branches.[73]

A similar method of direct propagation of fruit trees was called budding, or "inoculating." By this scheme one or more shallow wedges were cut from the side of the stock, into which triangular portions of the parent stocks, each containing a bud, were fitted, and bound in place. Most reference works believed that March was again the best time of year to perform this task. Thomas Jefferson, however, inoculated his cherry

trees in August.[74] Budding was recommended for cherries, plums, and delicate trees that were not likely to prove hearty if large wounds were made in the branches.[75]

The selection of root stock had a pronounced effect on the success of the grafting. It was an area in which American farmers had to experiment a great deal in order to get satisfactory results. Certain stocks produced fruit which ripened too early, or not at all; badly matched scions and stocks resulted in barren trees, or failed to wed correctly. English garden books recommended stocks native to their own countryside, for vigorous wild varieties often produced the most successful grafts. These were not always available in Virginia or Maryland, Even those that were, often did not seem to wed as well in the North American climate. European manuals recommended that cherries be married to wild cherry stock, pears on quince shoots or wild hedge pears, and plums on pear shoots. Apples were always to be grafted onto apple stocks--a principle upheld in the colonies--and "crab" stocks were considered the most likely to succeed. Apricots and peaches were to be grafted onto wild plums.[76] George Washington found that wild cherry stock worked well for his cherry grafting, but that pears wedded more favorably to apple or plum shoots

than quince.[77] John Custis had had so much trouble with peaches and apricots grafted onto the plum stock recommended by English experts that Peter Collinson in London begged him to try them on peach or almond stock. John Bartram's experiences with plums and nectarines were similarly disappointing when grafted to wild plum; Collinson also recommended the hardier peach shoots for these varieties.[78]

A final method used by Maryland and Virginia farmers to acquire seedlings was through exchange with friends or, occasionally, by purchasing the trees. Throughout the region there was a friendly association between planters interested in agriculture. Washington acquired apple, cherry, and plum scions from William Digges of Prince Georges County, Maryland, and from his good friend George Mason. Mason also sent peach seeds to Thomas Jefferson, and himself acquired plum trees from a Fairfax County neighbor. John Custis, John Beale Bordley, John Bartram, and others carried on lengthy correspondence with fellow agriculturalists, and constantly sent seeds, roots, and tree slips between the colonies.[79] Purchasing trees was another alternative. Advertisements in the Maryland Gazette offered grafted apple trees imported from England in 1776; as late as 1793 European trees were still arriving in America.[80]

A commercial nursery was opened in Surry County, Virginia, by 1755. The proprietor William Smith, offered twenty-two varieties of apples, five kinds of plums, nine varieties of pears, eight different cherries, and two peaches. Another Surry County nursery, operated by Thomas Soresby, had a similiar selection. Both men advertised in the Virginia Gazette, a widely distributed paper, with readership throughout the Chesapeake area. Yet another commercial grower was William Prince, who started his Long Island orchard in 1737. By 1771 he advertised over 150 varieties of fruit trees available for shipping.[81] The price of each tree was one shilling six pence. This was relatively inexpensive, for the purchase of trees could amount to a considerable investment. William Galloway of Kent County, Maryland, purchased two hundred apple trees over a period of four months in 1778-1779, for which he paid a total of £ 50.[82]

Trees were ready to move to the orchard when they were two years old. Nearly every time of year was recommended for this operation by one expert or another, save the period when the trees were in fruit. George Washington planted young trees in both February and November. William Galloway chose March for his plantings. William Byrd spent a great deal of the month of January 1712 in the orchard transplanting

young trees. Jefferson, like Washington, did much of his transplanting in November.[83] During the transfer it was important that the roots not be disturbed too much, and several techniques were developed to keep them moist and covered with earth. Henry Home described a technique for forming the roots into a ball, by which a circle ten inches in diameter was drawn at the base of the tree and a trench cut around and under the roots at that line. The following year the circle was widened and a similar trench cut. By the time the tree was to be transplanted, Home maintained, the roots would have formed into a mass to which the earth would easily cling.[84] In Williamsburg, John Custis devised another method. In 1738 Custis told Peter Collinson that when he planted his orchard "every individual tree was put into a basket with earth and the basket and tree buried together the basket soon rotted so that the tree was never stunted in the least; and tis great odds if another method will ever do...."[85] All horticulturalists recommended that, whatever the method, the job be done with care. Wrote Philip Miller: "...the setting out in a right way is that which every one should be most careful of; since by mistaking at first, much time is lost; and an After experience of new Trees often attends it."[86] In his charming book, Five Hundred Pointes of Good Husbandrie, Thomas Tusser put the case more poetically.

> Set one fro another full fortie foote wide,
> to stand as he stood is a part of his pride.
> More faier, more woorthie, of cost to remove,
> more steaadie ye set it, more likely to proove.
> To teach and unteach in a school is unmeete,
> to do and undoe to the purse is unsweete.
> Then orchard or hopyard, so trimmed with cost,
> should not through follie be spoiled or lost.(87)

Deep--but not too deep--was the vague rule for planting orchard trees, and most manuals advised that the soil should not be too rich.[88] The most specific directions for planting trees are to be found in the papers of William Prince. Writing from Delaware in 1798 he advised that

> the trees in general should be set about three or four Inches deeper than they have grown--their former depth may be known either by the Color of the Bark at the rootes or the spreading of them to make trees grow thrifty the earth where they are planted should be kept mellow & free from grass & weeds around the trunk & when they are Planted the hole around their roots should be filled with the Black mould or the Surface & some well rotted manure mixed in hole as it is feeting shaking the tree a little to make the earth settle among the fibres & gently pressing the earth with the feet till it is full.(89)

Forty feet apart was the standard rule for setting trees, especially for those orchards in which the ground was to be cultivated. Washington required that trees set by tenants on his land be placed at these intervals. Some authors allowed that the trees could be set more closely together if cultivation was not

required.[90] Thomas Jefferson planted such trees twenty-five feet apart; this may not have been ideal, for he found that they produced enough dead wood to fuel his fireplaces each year.[91] William Prince thought that a distance of forty-five or fifty feet should be left between trees in an orchard where a secondary crop was to be planted "but where the ground is only wanted for the orchard five & twenty or thirty will do--Peach trees in an orchard is distant enough--the same of apricots and nectarines."[92] Pressing the trees firmly into the ground was universally recommended, as was staking to protect against strong winds. John Beale Bordley thought this was vital enough that stakes or forked sticks should be cut the night before planting.[93] Another expert noted that guarding against wind damage was so important that it was his opinion that "more trees are lost by neglect of this operation, than any other way."[94] Other authors recommended protecting exposed sides of the orchard with a thick buffer of hardwood trees.[95]

Young fruit trees were thought to need abundant water and constant tillage. "For three years after the trees are transplanted from the nursery, the ground about them ought to be stirred twice annually," wrote Henry Home.[96] If crops were sown under the trees, it was considered advisable not to plant them too close to

the saplings. Pasturage was not considered wise in the young orchard, for nearly all livestock enjoyed browsing on the new tree growth, which could severely damage the plants.[97] Other cultivation techniques included the placing of dung, straw, or other mulch around the roots of young trees to protect them both from the cold, and from the growth of grass and weeds.[98] Occasionally more sophisticated techniques of orchard culture were employed, such as ditching or extensive fertilizing. John Bartram's model Pennsylvania farm boasted fruit trees which were fed by a series of aqueducts leading from a spring, which he enriched by placing compost on it at regular intervals.[99] Henry Wynkoop cultivated his Hughes crab orchard by continually stirring up the ground, and fertilizing it with leaves and rich humus from the adjoining wood. It had, he boasted, "produced a powerful effect on the growth and verdue of the trees."[100] George Washington "dung'd" his apple nursery with rotted tobacco stalks.[101] It is doubtful, however, if the average Chesapeake area farmer took this much trouble with his orchard.

Pruning was the most important task in maintaining the more mature orchard. By cutting away new growth and eliminating superfluous branches, the strength of the tree was channeled into producing more fruit, and

the shape of the tree was made to facilitate an even distribution of sunlight. Pruning was a winter task. William Byrd cut back his trees in January, and a number of garden books recommended that time of year for the work.[102] Others thought autumn a better time for pruning. John Beale Bordley's experiments in Maryland led him to believe that the orchardist should "In general prune trees soon as the fruit is off; that the wound may tend toward healing before the frost comes on...."[103] Batty Langley agreed with this notion and recommended August or September for the operation. Philip Miller also advised early pruning.[104] All agreed that pruning should begin after the fruit had fallen and before the buds began to swell and the sap rose in spring.

Dead wood was cut away during pruning and branches which crossed each other were removed. New shoots were thinned to allow the older wood to bear more abundantly. The idea was not so much to shorten branches as it was to thin out the shoots and allow the sun to reach all parts of the tree. Philip Miller gave two rules for pruning: "First, That every Part of the Tree be equally furnish'd with bearing Wood; and secondly, That the Branches are not laid in too close to each other...."[105] Too luxuriant branches were to be eliminated, as were bottom branches which tended to drag on the ground or weigh down the tree.[106]

Philip Miller advised that cuts should always be made behind a wood-bud, not a blossom bud; Batty Langley suggested leaving an inch between the cut and the blossom.[107] With peaches it was important not to eliminate too much of the previous years' growth, for this variety bears fruit on secondary wood.[108] Each cut was to be made as smoothly as possible. Bordley preferred to use a saw first and then finish the job with a knife. "The rule is to cut quick, close, and smooth," he wrote.[109] Medicated tar was to be applied to the wounds immediately afterwards. Bordley's recipe called for 1/2 ounce of "corrosive sublimate", a glass full of gin, and three pints of common tar.[110]

Several books recommended using the fingers to rub the new shoots or buds off of the trees when they appeared, instead of pruning each year. The technique was thought to be particularly successful on trees, such as plum and apricot, which lost a great deal of sap with pruning. Suckers about the roots were also to be eliminated in this way. Proponents of the method argued that it injured the tree less and was just as effective as pruning.[111]

PESTS

U.P. Hedrick has written that the farmers in the colonial period suffered less from insects and other pests than their counterparts two centuries later. Yet

the notebooks of farmers are filled with the frustrations of guarding orchard trees from insects, blights, and animals, and they were far less prepared to battle them than farmers are today.[112] Early watercolors of American fruits show clearly that they suffered from such diseases as codling moth, apple scab, flyspeck, leaf blight, fruit spot, and peach scab; authors considered a number of these diseases to be merely part of the varietal nature of the fruit.[113] Bordley described an orchard of the 1730s which was being destroyed by a fuzzy white caterpillar which bored into the roots of the tree. The farmer had exposed the roots and swathed them with burdock leaves dipped in whale oil, a remedy which had evidently proved effective. One American farmer who found caterpillars feeding on his trees prescribed a simpler cure: crushing them to death.[114] Another recommended that a smudge of wet straw be set throughout the orchard to discourage the caterpillars.[115] Smudges were one of the farmers' few defenses against insects. They were also used to destroy a fruit fly which a contributor to Arthur Young's Annals of Agriculture had discovered laying eggs in his apple blossoms. He found that heaps of dung, wet straw, weeds "or any other like matters," set to burning in the orchard would kill the eggs.[116] The local practice of

fattening hogs in orchards on ripe peaches was also thought to keep down disease and insects, especially the peach borer.[117] The more energetic and creative farmers tried rememdies such as painting the trees with tar, rabbit blood, or urine, to ward off millers and other pests. Cankers were to be eliminated by boring holes in mature tree roots.[118] John Bartram hoped that proper grafting would reduce disease. For the most part, however, the colonial farmer was helpless against pestilence.[119] When writing of the Saint Germaine pear--a variety found in Washington's garden--William Coxe showed little optimism about preventing the fire blight to which the pear was subject: "whether it be founded in any peculiarity of our climate, or in the long duration of the variety, is a point which has not been satisfactorily ascertained." This variety was not unusual, but one of many suffering from fungus or infestation of insects.[120]

Wild animals, of course, also posed a continuing problem. William Byrd was annoyed to find his coveted black-heart cherries eaten by wild pigeons in 1711. His solution was to shoot them with bows and arrows.[121] Thomas Jefferson erected a fence to keep his orchard "secure against hares." Fences were also used to keep out deer, raccoons, and livestock.[122] Moles were a continual problem in orchards. They disturbed the roots of young trees, uprooted crops, and nibbled seeds

in nurseries. George Mason suggested securing peach kernels from them by "slabs, or some such thing, let into the ground." The same technique was used to discourage mice. Traps were also sometimes set for these creatures.[123]

Perhaps the greatest danger, especially to young trees, was the unpredictable weather. As previously discussed, high winds were most frequently warned against. Drought was also a threat. During a heat wave in July 1738, John Custis lost nearly all of his young trees, "notwithstanding I kept 3 strong Nigros continually filling large tubs of water and put them in the sun and water'd plentifully every night, made shades and arbors over all the garden almost; but abundance of things perished notwithstanding all the care and trouble."[124] However, frost was more likely to kill trees than was hot weather. An early horticulturalist cautioned responsible farmers to "cover your dainty fruit trees all over with canvase..." each winter, and Langley suggested that the orchardist should devise a kind of tent from matting or old sail cloth, which could be opened in sunny weather and closed in the chill. In reality, there was little a farmer could do once he had carefully selected his orchard site and protected it with a stand of trees. In early May 1774, an untimely frost hit the entire Chesapeake region so severely that it killed half of

the fruit at Monticello, and all of it on Landon Carter's estate.[125] Philip Fithian, observing the scene along the Nomini River, wrote that the "peaches here, except on farms lying near the Potomac, are wholly destroy'd & there were the choisest expectations of some, who think Brandy their most valuable commodity."[126] In such dire weather fires and smudges were an inadequate solution, though during mild frosts they were said to be effective.[127]

Fruit which survived the rigors of weather, moles, and man's ignorance, was harvested throughout the summer. Baskets and ladders were used for the choicest specimens; afterwards the trees were probably shaken. Horticulturalists advised against this practice since it bruised the fruit, causing it to rot more quickly. As Thomas Tusser cautioned.

> Forget it not fruit bruised will rot.
> Light ladder and long
> Doth tree least wrong.
> Go gather with skill And gather that will.(128)

Philip Miller suggested using a broad flat basket to avoid bruising pears. He also advised harvesters to take care in the way the fruit was plucked, for the footstalk of the pear was the site of the next year's fruit.[129] Too early gathering was also a cause for unsatisfactory fruit. "Fruit gathered too timely wil taste of the wood, / wil shrink and be bitter, and seldome proove good," Tusser sang.[130] Should such a

mistake occur, Miller recommended wrapping the green fruit, especially pears, in paper.[131] How faithfully such suggestions were followed is difficult to determine. Preoccupied with tobacco culture, and aware that most of their fruit crop was destined for the cider mill, they probably preferred to shake down their orchards rather than pick the fruit of 200 trees by hand.

TOOLS AND OUTBUILDINGS

The tools required for cultivating an orchard were not specialized--most could be found on a small, relatively simply equipped farm. Most soil preparation, digging, and weeding was done with a hoe. In addition to this, Maryland agriculturalist John Beale Bordley suggested the following list of tools for work in the orchard:

two pruning knives
one saw
two chisels
one mallet
one spoke shave
one painter's brush

He specified that the saw should be coarse set, and the other tools sharp and smooth.[132] Batty Langley gave a similar list of the tools needed for grafting. They included:

a very good knife
a good strong pruning knife
a saw
a grafting chisel for opening the clefts in stocks
sound Bass-matting
a mallet.(133)

In addition, baskets and barrels were needed for harvesting. Thomas Tusser recommended a "light ladder and long" as least damaging to the trees when picking fruit.[134] Landon Carter used carts and tumbrils to carry fruit in from the orchard.[135] All of these implements showed up commonly in the records of blacksmiths who repaired and sharpened farm equipment. The records of John Hyde, who kept a forge in Upper Marlborough between 1759 and 1763, provide a good example. Axes, knives, hoes, and chisels were everyday items in the shop.[136] They were also common in estate inventories made on colonial Maryland farms. The estate account of John Galloway in Kent County, included two good Carts, six axes, ten different hoes, chisels, hand saws, a knife, and augers.[137] Similarly, the Lloyd family owned a broad axe, two-inch chisel, one-inch chisel, a cross cut saw, and several augers.[138]

It is likely that very little equipment was used, save in grafting and pruning, and that many of the tools were spontaneously chosen, rather than specially made for the purpose. William Byrd, for example, pruned his young trees with a razor.[139] Landon Carter also alluded to the lack of equipment when he reflected that although his father had owned few tools--not even a plow or cart--his orchards had been highly

successful. "And he never carted from one of these plantations one hogshead either light or heavy and never one Apple or Peach though he had large orchards and made abundance of Cyder and brandy...and yet who exceeded him?"[140] Travelers' accounts also frequently attested to the scanty equipment found on farms in Maryland and Virginia.

Those who made their own cider and brandy had to acquire some specialized tools, though here also the equipment was simple. John Galloway, whose orchard numbered at least three hundred apple trees, had among his possessions twenty-six cider hogsheads (four of them capable of holding 60 gallons each), a cider press with two screws, and a "Cyder Funnell."[141] The "Ingenio," or grinder type of cider mill, was commonly recommended in both England and Virginia. William Byrd ordered such a mill in 1738. Most people, however, crushed their fruit with pestles in wooden or stone troughs. A horse-powered roller mill, made of logs, was used for larger quantities.[142] Baskets or hair bags were needed to hold the ground fruit pulp as it was pressed. In 1694 William Fitzhugh tried to order a tin or pewter device to help him rack his cider.[143] Stills, worms, and still heads occasionally were mentioned in estate inventories. George Washington

owned a copper still when he died in 1799.[144] Those who wished to bottle their liquors were supplied with glass or ceramic containers.

Occasionally a separate structure was erected on the farm which was used for cider making and fruit storage. In a sample of estate inventories in Prince George's County for the years 1740-1750, three such structures were mentioned, all on farms over three hundred acres.[145] An inventory of Queen Anne County, dated October 7, 1664 mentions a "Pare Orchard House" containing casks of perry and a "lower Syder house" filled with that beverage.[146] William Coxe described the perfect cider house in his treatise on cider-making. It should, he wrote, measure 45 by 33 feet, and have two stories and a cellar. The upper floor was to be used for ripening apples before pressing. On the first floor was the mill and cider press. The cellar was ideal for storage of ripe fruit and cider. The advantage of such a building was that it could be used in all weathers, served to house delicate equipment, and helped retard spoilage in the liquor.[147]

SCHEDULE OF WORK IN THE ORCHARD

The following schedule has been compiled from journals, letters, traveler's observations, and the recommendations of garden books. It gives an idea of the range of activities which might be done in any

given month in a Chesapeake area orchard. Abbreviated notations follow each entry.

January:

"From everie tree the superfluous bows
now prune for thy neet (cattle) thereupon to go brows"
(Tusser, 73, 78; Bradley, 7; Byrd, 464)
planting trees (Byrd 286, 464; Tusser, 75)
planting seeds (Tusser, 75; Wilson Account Book)

February:

transplanting trees (GW, 255)
prune trees (Bradley, 16; Markham)
planting trees (GW II, 344)
grafting trees (cherries and plums) (Langley, 37)
building and mending fences (GW, 130-131)

March:

"Who graffing looves
Now graffing prooves" (Tusser, 91; TJ, 15; Fithian, 79; GW, 145-146, 1798, 210-211)
tree planting (TJ, 50; Galloway; GW II, 179)
transplanting (Home, 235)
light tilling and grubbing (Tusser, 99; TJ, Farm Bk, 46)
planting stocks (GW, 199)
water in dry wind (Langley, 75)
tar trees to prevent millers (Carter, 94)

April:

grafting (cherries and pears) (GW, 356)
smudge orchards for caterpillars and flies (Bradley, 17; Young, 56-61)
rub off buds and shoots (Miller, 1162; Langley, 63)
sow hemp in orchard (GW, 224)

May:

gather cherries (Byrd, 32, 191)
mulch roots (TJ, Farm Bk, 96)
rub off buds and shoots (Miller, 1128; Bradley, 23)
sow seeds in orchard (GW, 211)

June:

gather apricots (Byrd, 193)
early cider making (Byrd, 192)
gather cherries (Fithian, 118; Harrower, 45)

gather plums (Byrd, 428)
inoculating trees (Langley, 40)
plant tobacco in orchard (Carter, 701)

July:

gather fruit (Harrower, 160)
cider making (Byrd, 207)
inoculating trees (Langley, 40)
pinch back growth on young trees (Miller, 226)
plant wheat in orchard (Carter, 1117)

August:

gather nectarines, apples, peaches, pears, plums (Bradley, 143; Byrd, 387, 571; GW, 201; Fithian, 175)
inoculating trees (cherry) (TJ, 6)
gather cider apples (GW, 201; Carter, 1144)
prune trees (Langley, 66; Home, 245)
plant wheat in orchard (GW, 187)

September:

"Now is the busy time among the Cyder-makers" (Bradley, 155; GW, 187)
gather fruit (Tusser, 32)
prune trees (Bordley, 575; Langley, 66; Home, 245)
plant barley and rye in orchard (GW, 187)

October:

cider making (Bradley, 164)
gather late fruits (Bradley, 164; GW, 202; Tusser, 46)
perry making (Tusser, 46)
sow fruit seeds (Jefferson, 91; Home, 220)
plant or transplant trees (Markham, 11)
prune trees (Miller, 1047)

November:

gather fruit (Byrd, 254)
plant fruit trees (GW, 435; TJ, 79)
ditching orchard (Tusser, 58; Carter, 530)
sow wheat in orchard (GW, 216)

December:

mend orchard fences (Bradley, 182)
set out trees (Tusser, 63)
plant root stalks (Tusser, 60)
bank or cover against frosts (Langley, 75; Markham, 12)

USES

One of the chief pleasures of keeping an orchard was the arrival of the fresh fruit season. After a winter of monotonous root vegetables and, at best, dried or pickled fruits, the cherries, peaches, and plums of summer seemed luscious indeed. They made enough of an impression that planters noted the succession of fruit in their journals, invited friends to partake of the bounty, and sometimes over-indulged.[148] Washington planted varieties of pears and cherries expressly for the table, and there is little doubt that other planters made similar choices.

By far the most common use of fruit, however, was for making alcoholic beverages: cider, perry, mobby, brandies. Colonists were distrustful of the local waters and had little knowledge of brewing and distilling grains.[149] English settlers brought with them a long tradition of cider-making, and for common use this became the customary drink throughout the Chesapeake region. Travelers inevitably commented upon the cider. Typical of their remarks were those of Robert Dickson, who wrote from Virginia in 1785:

> As to the Drink chiefly used in this collony, it is generally Cyder, every planter having an orchard, and they make from 1000 to 5 or 6000 [gallons] according to their rank and Fortune...the Brandy is excellent and they make it in sufficient quantities.(150)

The quantities of cider that the colonists could consume always astonished visitors. A 1783 advertisement for a modest Maryland plantation featured an orchard which yielded "annually eight or ten thousand gallons of cider."[151] Two decades earlier an officer in Burgoyne's army was surprised to see the colonists downing cider even for breakfast, and Ebenezer Cook, who arrived in Maryland in 1708 noted that "Perry Quince and Apple Juice, / Spout from the Tap like any Sluice."[152] George Washington made 120 gallons of cider and mobby a day throughout the season, which frequently lasted three months.[153] Those so unfortunate that they did not own an orchard had to buy their cider, often at great expense. William Cooper, a Prince George's County man, bought twenty-five gallons for his personal use in the space of six weeks, as well as assorted "pottles of syder & sugar."[154]

There were few commerical establishments for making cider, perry, and mobby, thus most of what was consumed was made on the farm. In the Chesapeake area cider-making began around July when the first fruits began to ripen. After gathering, the fruits were laid a foot thick on the floor of a barn or cider house, and allowed to mellow, or ripen for several days. Some directions call for a mixture of varieties to be mellowed and pressed together in order to give a more

complex flavor to the cider. The Virginia Almanack for 1770, however, specified that only one variety of apple be pressed at a time or the result would be an astringent or ropy cider.[155] As the fruit mellowed, rotten pieces were to be thrown out, and at the end of the ripening each piece was washed and picked over for rotten spots. Thomas Jefferson specified this method when he directed his overseer to make cider at Monticello. "We have saved red Hughes enough from the north orchard to make a smart cask of cyder," he wrote. "They are now mellow and beginning to rot. I will pray you therefore to have them made into cyder immediately. Let them be made clean one by one, and all the rotten ones thrown away, or the rot cut out. Nothing else can ensure good cyder."[156] The fruit was then ground to a uniform mass which was called pomace or "cheese." The traditional method was to put it in a trough of wood or stone and mash it with a pestle-hence Landon Carter's reference to "beating" cider. Sometimes the fruit was crushed by rolling a log over it in the trough. The "Ingenio", a fruit grinder, was in use in England and America from about 1650, though it was probably not common. This device worked like a mill: apples were fed from a hopper through a series of studs or teeth attached to intermeshing wheels. About 1745 large mills came into use, which combined horse power with a toothed wheel that rolled over the apples. Until well

into the nineteenth century, however, such commercial mills were uncommon.[157]

After grinding, the pomace was enclosed in a closely woven bag and taken to the mill to be pressed. Screw type presses were generally favored in the Chesapeake region; they were said to produce the clearest cider. Occasionally the pomace was allowed to mellow for a day before being pressed, but in warm weather this step was usually eliminated. After pressing it was placed in split baskets, or in linen or hair bags, to drain.

Fermentation was the next step in the cider making process. The Virginia Almanack recommended that yeast be added to the pressings to control fermentation, for it maintained that over or under-fermentation was the greatest cause of spoilage and bad flavor in cider.[158] William Coxe, who had long studied cider-making on the eastern seaboard, advocated placing the liquor in large open vessels to ferment. He conceded, however, that few people followed this method. The general rule was to place the cider directly into casks and place them either in a cellar or in the open air with the bunghole left open. As the liquid fermented the pomace was pushed out of the hole and more cider was added. It took up to three weeks to complete fermentation by this method. When the desired fermentation was completed

the bung was driven in the hole, loosely at first, and later completely sealed.[159]

Racking was the final stage in the cider making process. Racking involved separating the clear fermented liquid from the remnants of fruit pulp and yeasty scum. No one method of performing this step was adhered to, though all authors recognized its importance in producing a fresh-tasting, long-lasting beverage. Coxe thought cider should be racked as soon as the pomace rose, and again the following spring.[160] The Virginia Almanack recommended using sand and rye liquor for racking, and, if further clarification was needed, to use isinglass. Other authors advised chilling the cider or adding wood shavings, fish gelatin, or lime to finish the beverage.[161] Virginian James Pendleton jotted an elaborate cider finishing process in his notebook sometime between 1782 and 1802.

To Make good Cider

> To make cider of Early or later fruit that will keep a length of time without the trouble of frequent drawing off. Take a large Cask from a Barrel upwards put a few sticks in the bottom in the manner that house wives set a lye Cask so as to raise a vacancy of two or three inches from the bottom of the Cask, then lay over these sticks a clean old Blanket. or if that be not at hand a quantity of swindling Flax. so as to make a coat of about a quarter of an inch thick. Then put in so much cleaned washed sand from a beach or road as will Cover about six or

> eight inches in depth of your Vessel, pass all your Cider from the press through a Table Cloath suspended by the corners which will take out the pummice & poor the liquer gently upon the sand through which it must be suffered to filter gradually & as it runs off by a tap inserted in your Vessel in the Vacancy made by the sticks at the bottom it will be found by this easy method. as clear as Cider can ( ) by the most laborious process of refining and all the mucilaginous matter which causes the fermentation and souring of Cider will be seperated so as to prevent that disagreeable consequence.(162)

Finally, the cider casks were tightly closed and, hopefully, set in cellars or on racks around which the air could circulate. Occasionally it was bottled, though this never became a popular form of storage. As one wry observer noted: "I do not recollect to have ever seen any very delicate bottled cider."[163]

Perry and mobby making closely followed the form used to produce cider. "In the manufacture of Perry, the same rules are adapted as in making cider;" William Coxe wrote, "except that it is not usual to permit the pulp to remain long before pressing; it should be done immediately after grinding." Perry and mobby, he noted, did not become as clear or refined as cider, though their appearance was greatly improved by the addition of egg whites or isinglass, Cherries were made into a similar beverage called "visney". A British recipe called for the farmer to gather the ripe fruit

in June, crush it, then put it in a hair bag to drain. When all of the juice was extracted, sugar was added--generally one pound to every gallon of liquid. The cherry juice was then boiled and put into a vessel, "where it will presently begin to work." When fermentation was complete the liquid was put into a closed cask for four months at the end of which time it was bottled.[164]

Fruit brandies were commonly distilled from cider, perry, or mobby. George Washington found that 144 gallons of cider made nearly thirty gallons of apple jack, and that sixty gallons of mobby yielded twenty-two gallons of peach brandy.[165] A traveler in New England found that these liquors rarely contained over 12 percent alcohol, though in Maryland and Virginia they were reputed to be surprisingly potent.[166] In the absence of grain-derived spirits, the brandies were highly prized. Philip Fithian noticed this in 1774, when he observed that the late frost, which had killed so many fruit trees, grieved those planters most who thought "Brandy their most valuable commodity!"[167]

There are extant two descriptions of distilling peach brandy in the Chesapeake area, one written in 1748, the other in 1777. The methods described match well, though they give few details. In 1748, Peter Kalm wrote:

> They make brandy from peaches here after the following method: the fruit is cut asunder and the stones are taken out. The pieces of fruit are then put into a vessel, where they are left for three weeks or a month till they are quite putrid. They are then put into the distilling vessels and the brandy is made and afterward distilled over again.(168)

The method evidently changed little in the next thirty years, for Ebenezer Hazard, a traveler in Virginia noted the following in his journal for 1777.

> Peach brandy is made by putting the Peaches in a Trough & bruising them with a Pestle, so as not to break the Stones. They are then thrown (thus bruised) into a Hopper, or a Hogshead with a Hole in it & a Vessel put under it & suffered to drip: The Drippings are distilled into Brandy.(164)

Careful planters such as George Washington and Thomas Jefferson were concerned with the correct methods of cider and brandy making. They were staples of the plantation and these men took pains to produce a usable and long-lasting beverage. For most farmers, however, the process was uncertain, and produced an inferior product. Rare were the European visitors who praised American cider. (An exception was the British officer who exclaimed that it "far exceeds any Cyder I ever tasted at home. It is genuine and good to the age of twelve years or more.")[170] Most found it a "very precarious" drink, of a "thin Fretting Kind", that often spoiled quickly.[171] John Galloway in Maryland

pronounced it fit only for "the meaner sort of People," and his words were reiterated by Peter Kalm, who thought the local peach brandy inadequate "for people who have a more refined taste, but it is only for the more common people such as workmen and the like."[172] The Virginia Almanack talked of acid, ropy, spoiled, and oily cider, giving remedies which ranged from adding milk or pulverized oyster shells to the brew to additional fermenting and racking.[173] William Coxe thought that careful preparation of bottles and casks-- sterilization with boiling water or burning out the inside-- would save some of the cider. He also cautioned against too much fermentation, a common problem in the warm climate of Maryland and Virginia.[174] Jasper Danckaerts wrote from Maryland that the intial pressing of cider was good but that "the largest portion becomes soured and spoiled, either from not putting it into good casks, or from not taking care of the liquor afterwards."[175] Mouldy or rotten fruit also caused a disagreeable taste. Thomas Jefferson tried to guard against this when making mobby and cider, but not everyone was so careful. In 1780 a Briton visiting Virginia was disgusted by the rotten taste and odor of the peach brandy he sampled, but after watching the process of making it was no longer surprised.

> for after gathering the fruit, it is put in large vats, where it remains till it is in such a state of putrification, as to be extremely offensive to approach it, in this state the peaches are pressed and the liquor that comes from them is distilled; from whence the custom arose to let the peaches be in such a putrified state, I never could learn; for upon asking several of the inhabitants if they bruised the peaches as soon as gathered, and pressed the liquor from them, whether the flavor and strength of spirit whould not be superior, the only answer I could obtain was, that they believed it might, but the other was the usual mode.(176)

Another traveler complained that the country people "forced me to drink their cider," and Ebenezer Cook wrote of being served "Homine and Syder-Pap/ (which scarce a hungry Dog wou'd Lap)."[177] Even the most prestigious men had difficulties with their cider. William Fitzhugh, hoping to send a cask to a friend in England, found to his embarrassment that he had "none worth my sending." He put the trouble down to "want of a Racking at the spring" and tried to purchase equipment which would help give him a clear, and less perishable, cider.[178]

The bad flavor of the cider, and its poor keeping qualities may have been the reason why orchards never became commercially successful. Very large landowners sometimes sold small amounts of cider or apples to

local craftsmen or taverns--Landon Carter and Carter Burwell were notable examples--but there are no records of commercial orchards in the colonial Chesapeake.[179] A list of Maryland exports drawn up in 1753 included wheat, corn, flour, bread, pork, peas and beans, herrings, shingles and staves, but no orchard products.[180] Maryland legislators in 1750, passed laws to regulate the size and tare of barrels used to ship pork, beef, tar, turpentine, and flour, but did not bother to specify a size for fruit or cider.[181] Perhaps Charles Calvert put it best when, on April 26, 1672, he sent a letter to Lord Baltimore squashing the latter's hopes of exporting Maryland cider. "I am afraid it will be a very hard Matter to find such Casque here as shall preserve Syder good to England," Calvert wrote, "for we want good Butt I am of Opinion the best Syder in the Country will doe us noe Creditt in England."[182]

Fruit, of course, had many uses besides cider and fresh eating. Drying was the most common form of preservation. In unusual years the farmer produced enough dried apples and peaches that they appeared in Baltimore markets.[183] Observant Peter Kalm noted the method of drying peaches used by the colonists: "it is cut into four parts, the stone thrown away and the fruit put upon a thread on which they are exposed to

the sunshine in the open air till they are sufficiently dry." In wet weather the fruit was dried on a board laid before the fire, or put into a warm oven. Those dried in the oven were intermittantly taken out into the fresh air to reduce shrivelling.[184] Pears were also probably dried in this fashion.

Dried apples, like their fresh counterparts, were often made into that American classic, apple pie. A Swedish parson, traveling through lower Delaware, in 1758, wrote that apple pie was a staple in that part of the country.

> ...apple pie is used through the whole year, and when fresh apples are no longer to be had, dried ones are used. It is the evening meal of children. Housepie in country places is made of apples neither peeled nor freed from their cores, and its crust is not broken if a wagon wheel goes over it.(185)

Vinegar was another by-product of fruit, made intentionally or unintentionally from cider. The best was made, according to William Coxe, by exposing open casks of cider to the sun, or adding the lees, or "mother", of a batch of successful vinegar to fresh cider.[186] In Carolina, John Lawson spoke of a peach which was grown especially to make vinegar.[187] A 1769 recipe for apple butter, found among the papers of Maryland's Lloyd family gives yet another use for this versatile fruit.

> Make your cyder out of the early sweet Fall apples. As soon as it is out of the press-put it into your copper cauldron & let it boil untill perfectly clear--Get of the same sort of apples the sweeter the better--pare them quarter & core them carefully--taking care that the seeds are all out: Put them into the cyder untill it is quite filled up. Then begin to stir & do not leave off a single moment untill your butter is done which will not be untill it has boiled from 14 to 16 hours at <u>least</u>. When it is done put a spoonful on a plate & the cyder will not separate from the apples----Put allspice & cynnamon to your taste.(188)

Fruit was also preserved by immersion in brandy. Cherries were the most common fruit to be treated this way. In 1676 Thomas Glover of Virginia wrote that the "meanest planter hath store of cherries." Pickling cherries and peaches in wide mouthed jars was common practice. William Byrd also described cherries which were preserved by scalding and then packed into bottles without liquid. Archaeologists working at Colonial Williamsburg have discovered bottles filled with the pits of Morello cherries which fit Byrd's description.[189]

A final use of fruit, particularly peaches, was as hog food. European visitors rarely failed to be amazed that peaches--a delicacy in England and on the Continent--grew in such profusion that they were used to fatten hogs. Andrew Burnaby wrote that all fruits

grew well near the Chesapeake Bay, but "particularly peaches, which have a very fine flavoring and grow in such plenty as to serve to feed the hogs in the autumn of the year."[190] The author of American Husbandry, the first significant treatise on American agriculture, wrote that Maryland and Virginia had fruit as abundant as that in Pennsylvania "so as to be applied to the same use of feeding hogs as there."[191] Another Maryland farmer wrote of using apples in the late eighteenth century for hog food. "The sweet apple is very profitably cultivated for food, especially hogs," he stated. "One acre of well-grown sweet apple trees will fatten more hogs than five acres of the average farm crop; and the expense to the farmer is nothing in comparison to (other methods) of fattening."[192]

VARIETIES

Apple

Apples were by far the most important orchard crop grown in the Chesapeake colonies. They were the most versatile of fruits and were the base for cider, the colonists' principle alcoholic beverage. Most landlords specified that apple trees be planted on their grounds. Unless otherwise identified, "orchard" came to mean an apple orchard in these colonies. At least one horticultural expert recommended that the farmer who wished to begin an orchard start his

plantings with two-thirds apples and the other third assorted fruits.[193] Of the 123 estate advertisements listed in the Maryland Gazette between 1728 and 1774, 61 specifically mention apple orchards on the property, and five describe estates containing two apple orchards. Many more of the advertisements simply list an orchard of unidentifed fruit; probably all of these contained some apple trees. This is many times the number of advertisements which specify pear, peach, or cherry orchards.[194] Edward Ayres, who has done an extensive study of orchards in Virginia, found a similiar situation in that colony.[195]

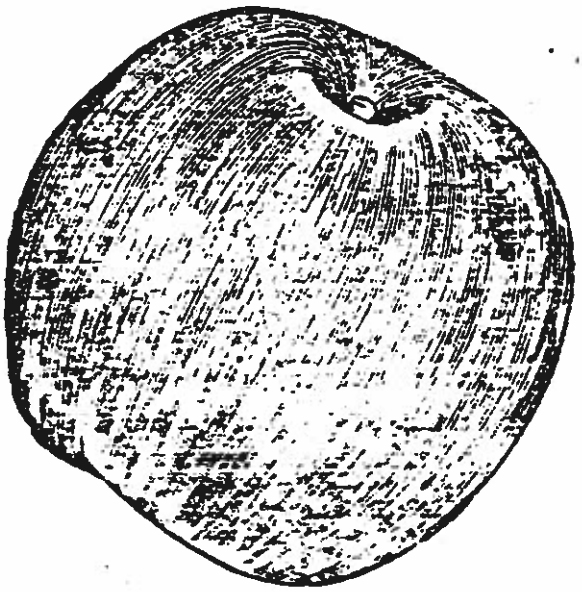
If anything, Maryland grew more apples than did Virginia. John Beale Bordley mentioned this emphasis in his comparison of agriculture in England and America.[196] One eighteenth century report complained that though plentiful and large, Maryland apples were mealy.[197] At least one variety, however, became a widespread success: the Maryland Red Streak. Primarily a cider apple, the variety was among those acquired by George Washington when he began an orchard in the 1760s.

Because they were frequently propagated from seed, most of which did not reproduce true to type, many new varieties of apples were developed in North America. Most famous of these was the Newton Pippin, an apple

considered so superior that it was exported to England, where it became a favorite. As grafting became widespread, the new strains were reproduced more effectively and the general terms-- "costards", "pippins", "batchelors"--gave way to more precise names. By the end of the eighteenth century there were over two hundred well-established American varieties.

The following list (and those for the other varieties of fruit) has been compiled mostly by Edward Ayres for his study "Fruit Culture in Colonial Virginia." His sources are chiefly the nursery advertisements of Thomas Soresby, William Prince, and William Smith; diaries and letters of George Washington, Thomas Jefferson, Landon Carter, St. George Tucker; advertisements in the Virginia Gazette; and descriptions by vistors such as Robert Beverly. To Ayres' list have been added the varieties listed by William Byrd in his Natural History of Virginia. Illustrations and descriptions of the fruit are from William Coxe, A View of the Cultivation of Fruit Trees and the Management of Orchards and Cider, and William Ragan's Nomenclature of the Apple, and Nomenclature of the Pear.

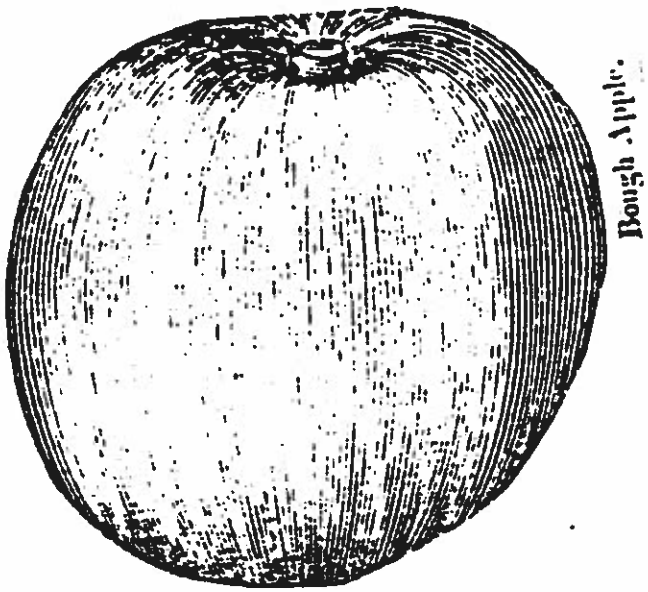
APPLE VARIETIES



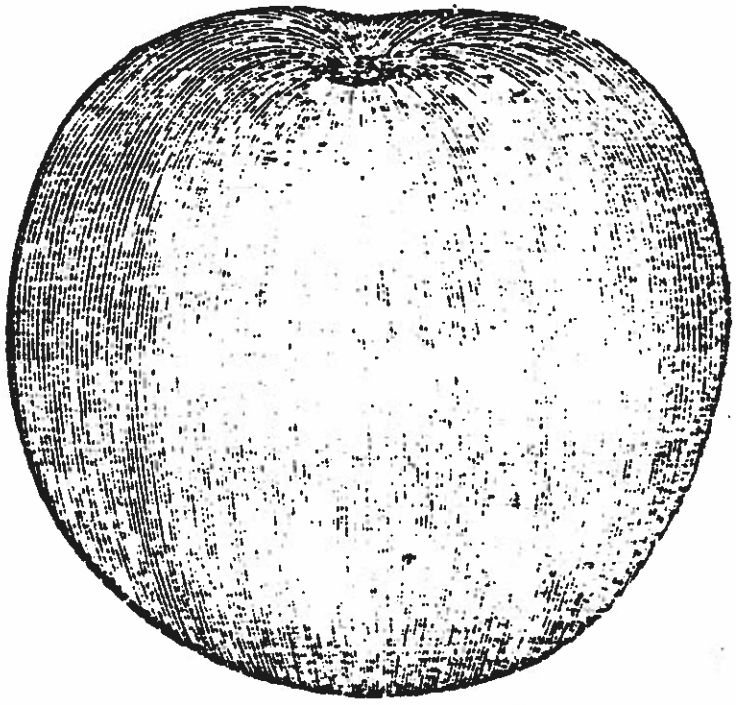
Carthouse, or Gilpin.

Barker Liner: Ragan believed that this is the same as the Gilpin, or Carthouse, apple which originated in Virginia. Grown extensively in Delaware and Maryland, it was much esteemed as a table and cider fruit. The tree was an especially hardy and abundant bearer. The fruit was small, with a deep red polished skin. The flesh was not fit to be eaten until mid-winter, when mellowing made it tender and finely flavored.

Bulter: Possibly a corruption of the name "Butter" apple.

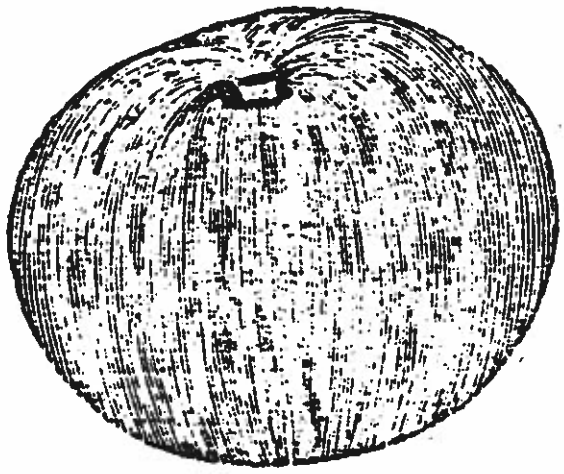


Bough: Also called Early Bough, or Early Bow, this was considered the finest early table apple in the region. It was a large fruit with a pale yellow skin and white flesh, and a very sweet and juicy taste. It ripened in July or August. The tree was vigorous, with a round form and heavy green foliage.



Cathead.

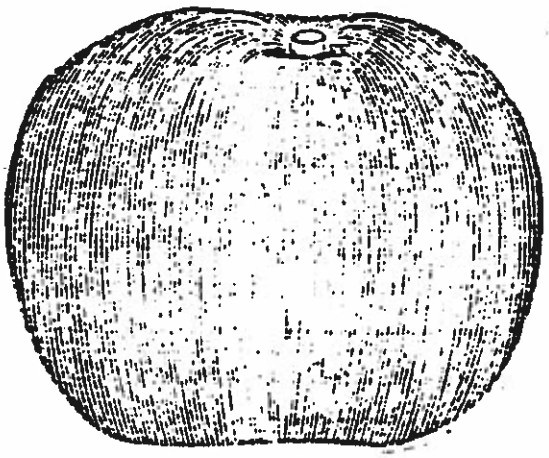
Cathead: There were evidently several varieties with variations of this name. It was a poor eating apple, deficient in richness and flavor, but well adapted to drying. The apple had a greenish-yellow skin and white flesh.



Catline.

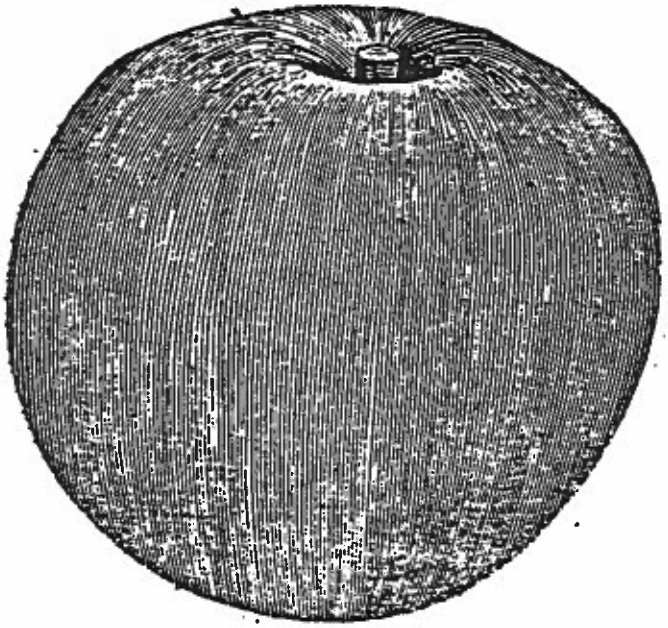
Catline: Also known as Cattaline, Catalin, Cattalin, or Gregson. A small apple which ripened in October or November. It was used both for eating and for cider, though for the latter was not considered strong enough in flavor to bottle. The tree was very productive, bearing many fruits, which were yellow with a red cheek.

Cheese Apple: Ragan listed seven varieties of cheese apple, including the Lewis Cheese Apple, Lloyd's Cheese Apple, Ruffin's Large Cheese Apple, and the Summer Cheese, which may have originated in Virginia.



Golden Pearmain.

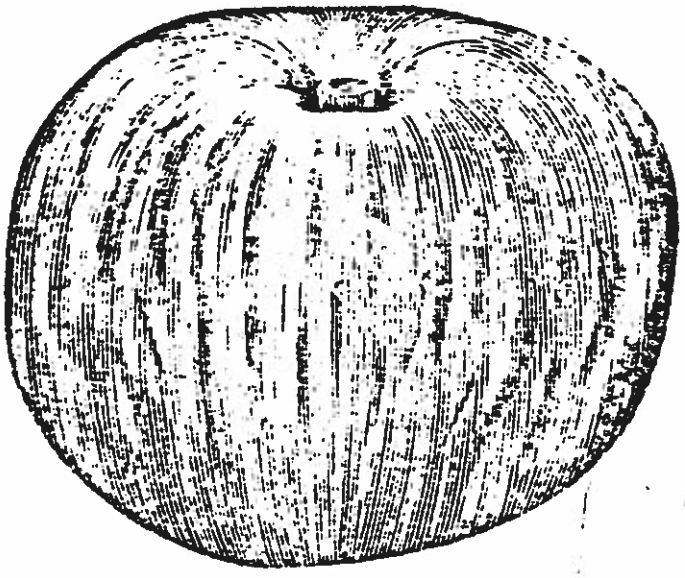
Clarke's Pearmain: This variety had many names, including Clark's Pearmain, Gloucester Pearmain, Columbian Russet, Golden Pearmain, and Yellow Pearmain. A valuable cider apple, it had a rough skin tinged with russet, and a rich, tender, dry flesh. The tree grew luxuriantly. The fruit ripened in November and kept well.



Codling.

Codlin: Also called the Codling and the Royal Codlin. There were numerous types of Codlin, most originating in England. Ripening in August, the fruit was used chiefly for pies. These apples were yellow with a fresh, sprightly taste.

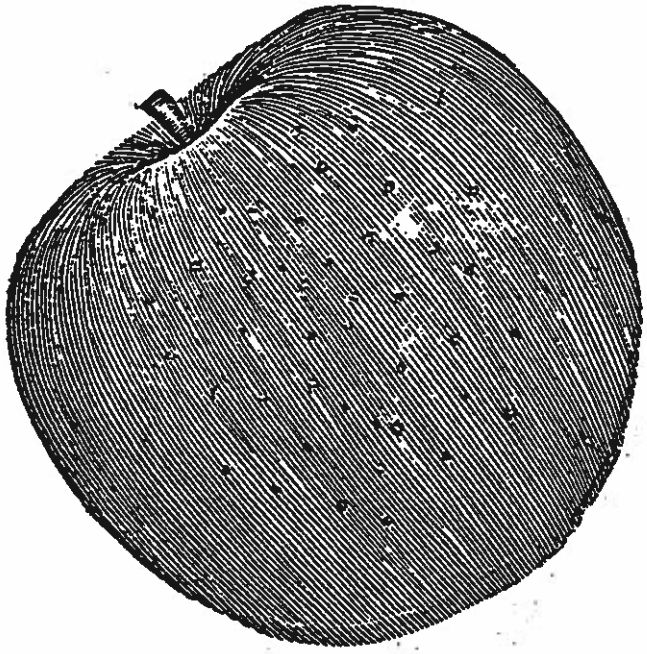
Curtis: An apple known in Virginia in the 1770s.



Doctor, or Dewit Apple.

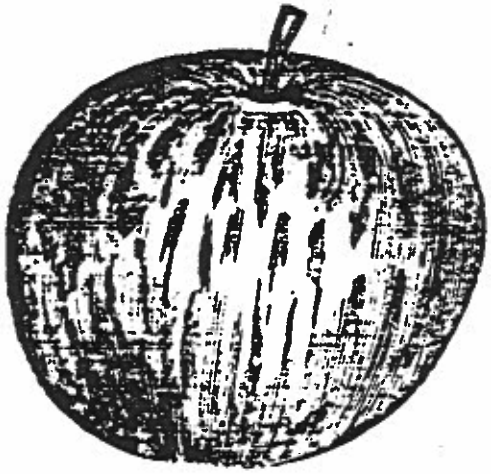
Doctor: This apple was also called the American Nonpareil, Dewitt, Doctor Dewitt, Red Doctor, and the Newby. It was first cultivated near Philadelphia. This was a very large table fruit, admired for its beauty as well as taste. The skin was yellow with red spots. It ripened in October and kept for several months.

Early Harvest: Known also as Bracken, Early June, Harvest, July Pippin, Large Early Apple, Large Early Harvest, Large White June eating, and Yellow Harvest. An inferior July apple. It was oblong, yellow, and lacking in flavor and juice.



Esopus Spitzemberg.

Esopus: The many names for this apple include Aesopus Spitzenberg, Esopus Spitzenberg, Spitzenburgh, Spitzenburgh Esopus, and True Spitzenburgh. This was a scarlet fruit with a sprightly taste, much esteemed for its beauty as well as flavor.

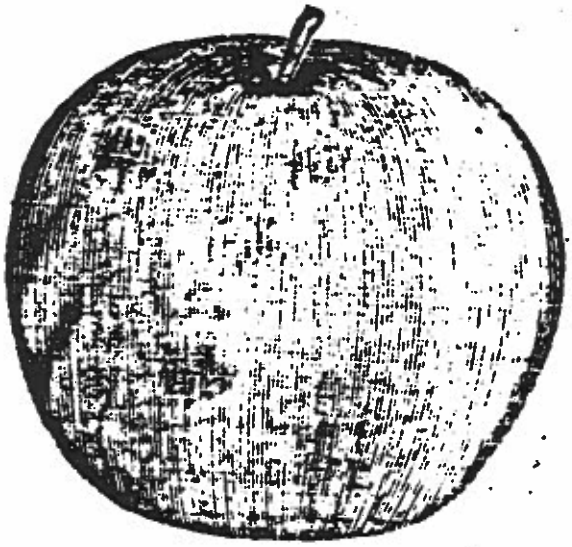


Father Abraham.

Father Abraham: This may be a variant of the Abram apple which originated in Virginia. It was a small, flat apple with mottled red and yellow skin, and an agreeable taste for table use. An early winter apple

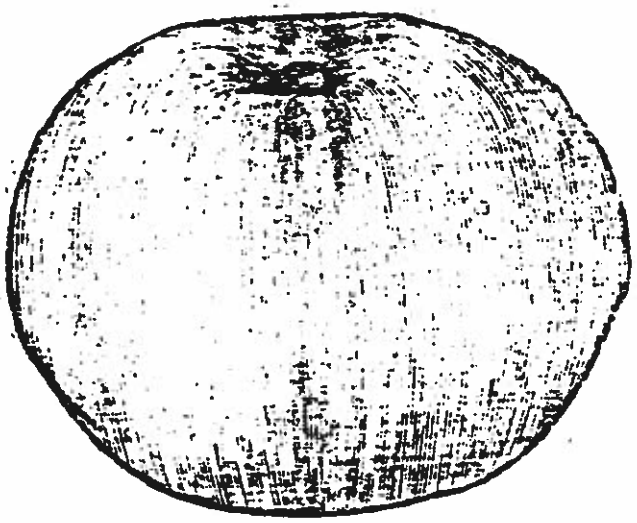
which kept well. Coxe: "In Virginia whence I procured it, it is much esteemed and extensively propagated."

Gillese's Cyder Apple: Probably a minor local fruit.



Gloucester White.

Gloucester: Also called Gloucester White and Gloster White. This variety may be closely linked with the Taliafero and White apples listed below. Ayres believed it to be mainly a cider apple, but Coxe wrote: "It does not keep long but while in season is a delicious table apple." The tree was exceptionally hardy and productive. It seemed to be popular mostly in lower Virginia. The fruit ripened in early October.



Sweet Pippin.

Golden Pippin: Also known as the Sweet Pippin. This was a fine winter table apple, and cider fruit. It was

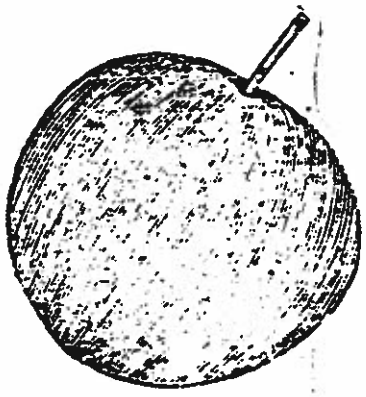
very small and had a thick rough skin, but the flesh was rich. It seems to have been more successful in England than America.

Golden Russet: Ragan lists a Golden Russet and an Aromatic Russet, both of English origin.

Golden Wilding: An apple originating in North Carolina. Jefferson obtained one near Williamsburg in 1778. Possibly also known as Golden Willow.

Green: Also known as the Winter Cheese, this apple was offered for sale in Virginia in 1763.

Gully: An apple grown in Virginia that had originated in Pennsylvania.

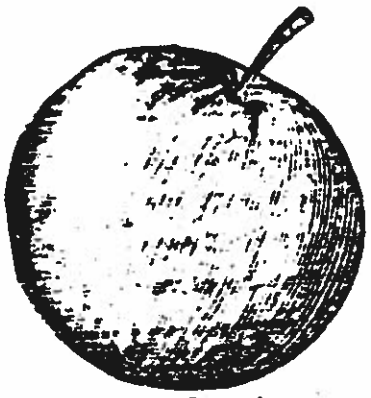


Hewes's Crab.

Hewes: Many names for this cider fruit existed: Hewes' Crab, Hughe's Virginia Crab, Red Hughes, and Virginia Crab, among others. This was probably the best known and most frequently cultivated cider apple grown before 1800. One planter called it the "best Cyder apple perhaps in the world." It was very small and completely round, with a dull red skin that was faintly streaked with yellow. The clear juice separated easily from the pulp, making a sweet, light cider.

Horse: Originating in North Carolina, this was a common apple around the Chesapeake.

June: An apple originating in Virginia, also called Hardway's June.



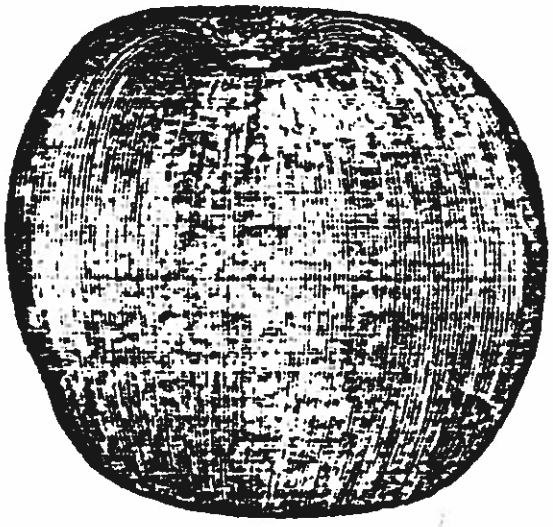
Juneting.

Juneting: This was the earliest table apple, a pale green variety which turned light yellow when mellow. Neither juicy nor highly flavorful, it was nevertheless a great and constant bearer.

Large Piplin: The origin of this apple is not known, but it was available in the Chesapeake area in 1787.

Limbertwig: A North Carolina apple also found in Virginia.

Long Red and Longstem: These are probably the same variety, which was thought to have originated in Virginia.

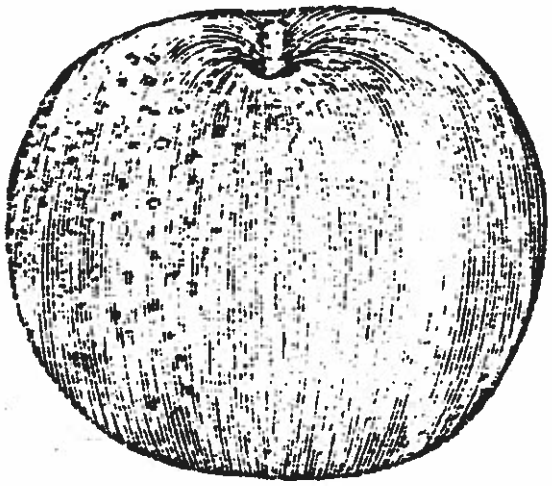


Redstreak.

Maryland: Also called the Maryland Beauty, Maryland Red Streak, Maryland Red Strick, and Maryland Red Streck. Probably a variant of the Red Streak, a popular English apple, grown extensively in Herefordshire. This was an excellent cider fruit. It was large, bright red in color, and kept well. "When perfectly cleared it ranks among our first fruit

liquors," wrote Coxe. Another planter said, "Makes fine strong Cyder and keeps through the Winter better than almost any other Apple".

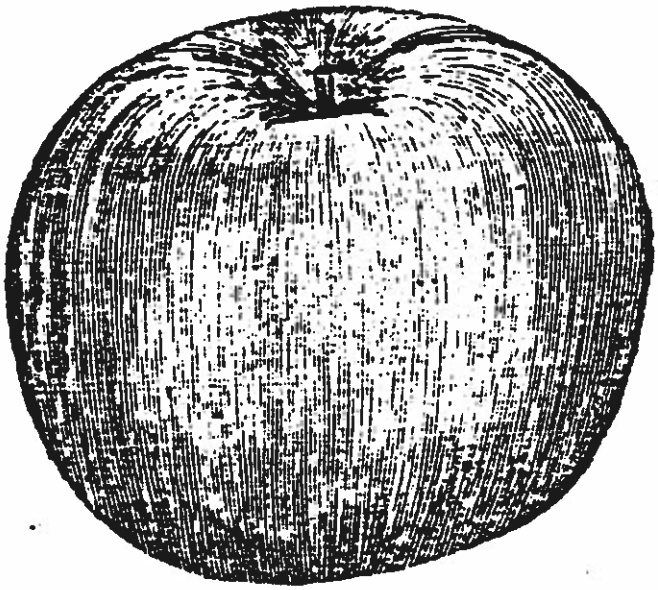
May Apple: An apple of Virginia origin, and widely available around the region.



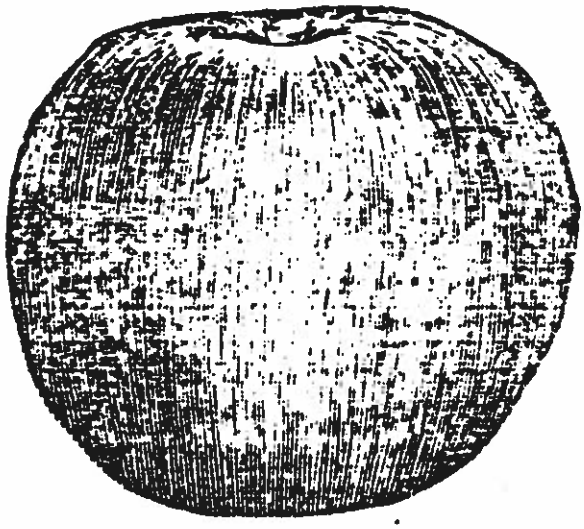
Royal Pearmain

Merrit Pearmain or Royal Pearmain: Another apple of Virginia origin. It was a large flat fruit, with deep russet skin and rich yellow flesh. An eating apple, it had a firm texture and sharp taste. It ripened in October on a tall straight tree. Though it was known as far north as Pennsylvania, it was most popular around Richmond, Virginia.

Moyle: Frequently referred to as the Gennet Moil, or Gennet Moyle. An English cider apple with yellow skin, and speckles, and a rich sprightly juice. Found in Virginia around 1742.

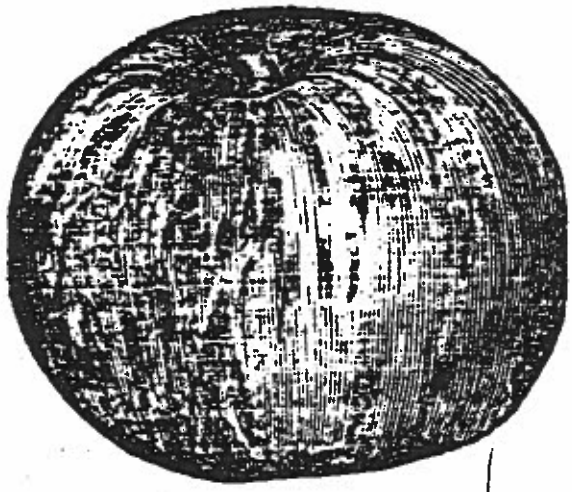


Yellow Newton Pippin.



Green Newton Pippin.

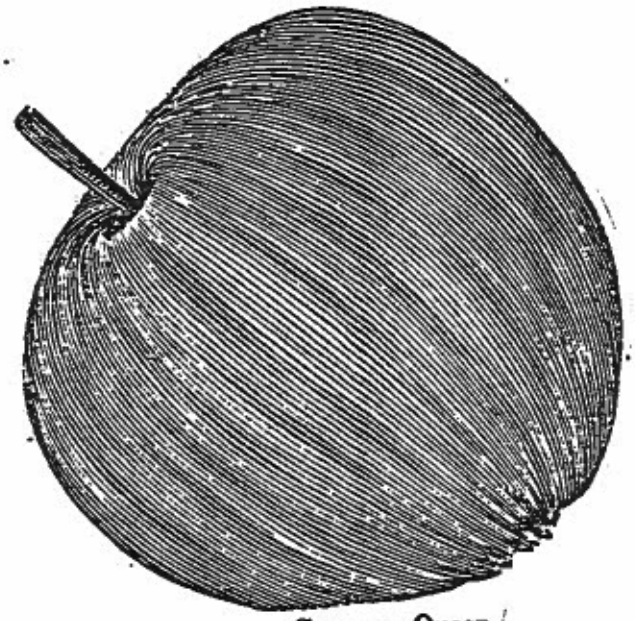
Newton Pippin: Of the many names the most common were Yellow Newton, Albmarle, Albemarle Pippin, Mountain Pippin, Newtown Pippin Yellow, New York Greening, New York Pippin, Virginia Pippin, the most famous of American apples. There were two varieties, the most popular of which had a greenish-yellow skin, and rich juicy flesh: it was known as the Yellow Newton Pippin. An all purpose apple, it ripened in November. Eventually it became an important export fruit. The trees thrived in sandy soil around the Chesapeake Bay.



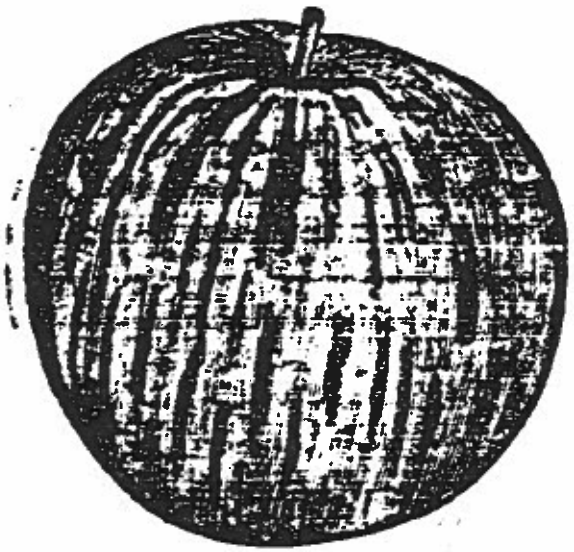
English Nonpareil

Nonpareil: Also referred to as English Nonpareil. A dull green apple of English origin, with a dry flesh and sharp taste. It ripened in November. This apple, like others of English origin, was thought to be less flavorful in America than in England.

Old Town: Also called Old Town Creek Crab, Old Town Crab, and Spice Apple. A Virginia apple, probably used for cider.



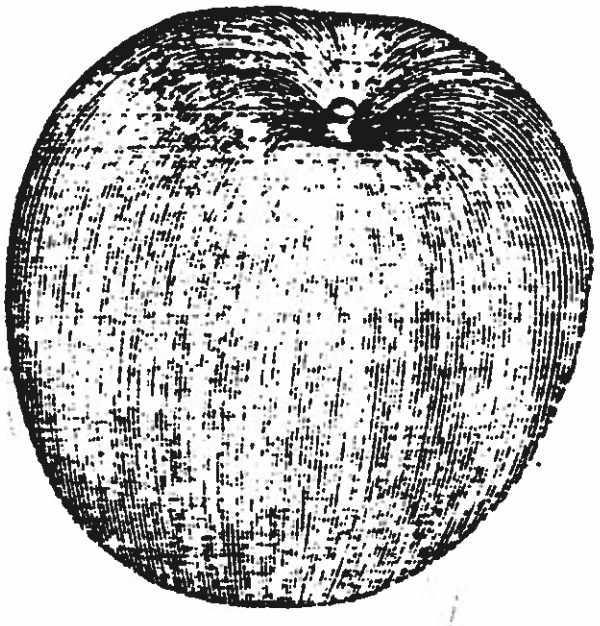
Summer Queen.



Winter Queen.

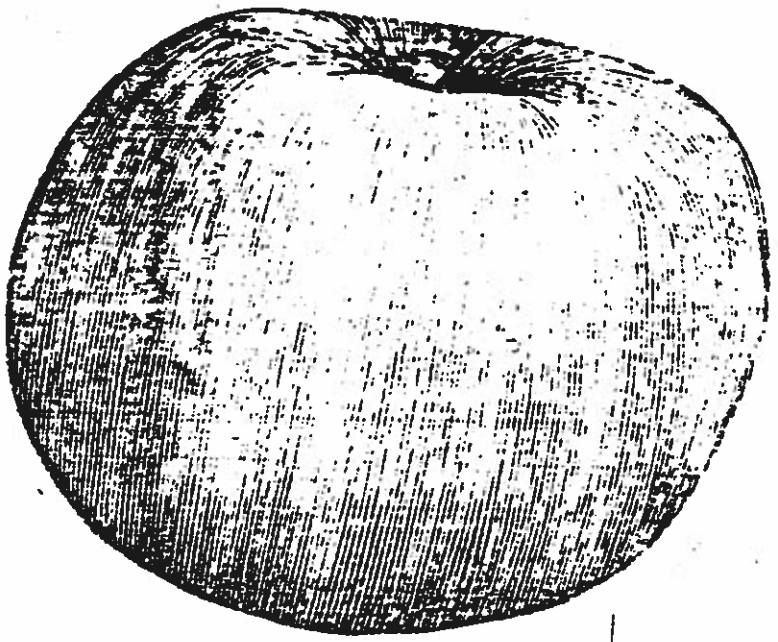
Queen: There were many kinds of Queen Apples, ripening both summer and winter. Among them were Todd's Queen, Parham's Queen, Williams, and Buckinghams, the latter of which was thought to have originated in the Chesapeake area. They were showy fruits of a lively bright red streaked with yellow. Used for both table and cider.

Red Sweet: A dull red cider apple.



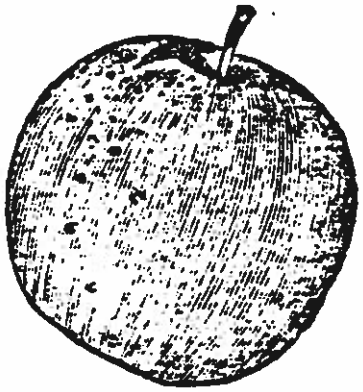
Reinette Franche.

Reinette Fraiche: A yellow apple, apt to shrivel, but with a firm flesh when fresh.



Jersey, or R. I. Greening.

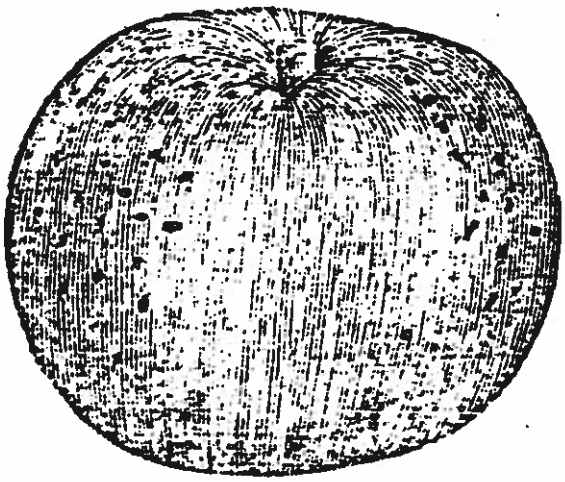
Rhode Island: Known by many names, including Bell Dubois, Burlington Greening, Green's Inn, Greenling von Rhode Island, Jersey Greening, Hampshire, Rhode Island Greening, and Russine. A large winter table and kitchen fruit. Yellow-green with dull spots, it kept well.



Roanes white Crab.

Roan or Roan's White Crab: This variety originated on the estate of John Roane of Virginia. The tree was an early and great bearer of small, round, yellow apples. They had a rich dry flesh and musky sweetness. Used only for cider, which was thought to be a little rough unless fermented properly. Some complained that it was fibrous, but if well made this apple produced cider of an unusual brightness. It ripened in September and October.

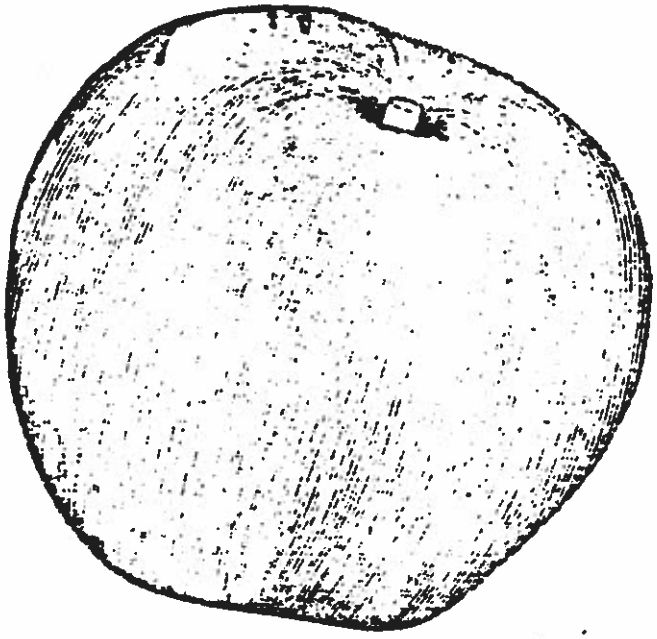
Robertson or Robinson: There were over a dozen varieties of this tree, two of which were said to be of Virginia origin. This may also be synonym for the Taliafero apple.



Royal Russet.

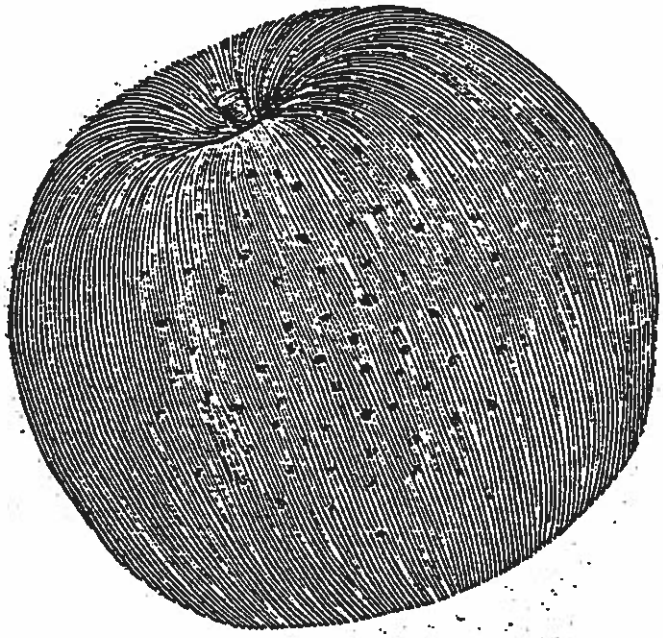
Royal Russet: Frequently called Leather Coat, Leather Coat Russet, Old Royal Russet, and other names. This was a cooking apple with a well-flavored flesh and rich red skin. It bore abundantly and kept well. An English variety, it adapted well to Maryland and Virginia.

Sallman: Sometimes called Salmon's, Salman's, or Westbrooke's Sammon's. An apple available in Virginia that may have originated there.

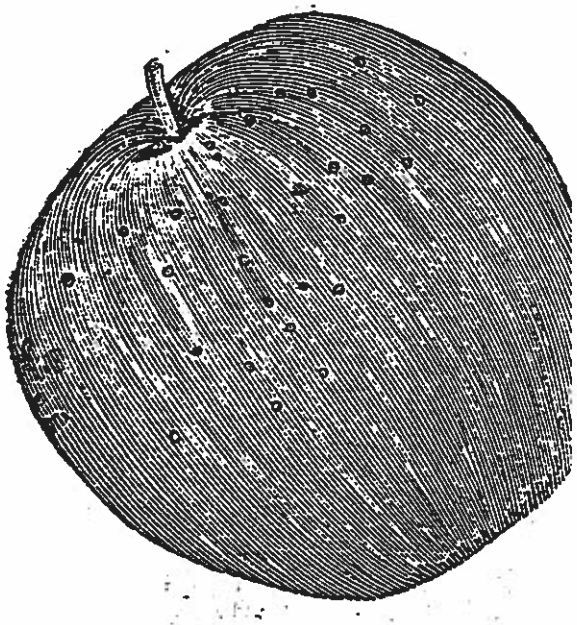


Seek no further.

Seek No Futher: There were many varieties of this apple, which originally grew in Connecticut. It was an early winter apple, with yellow-green skin, and tender juicy flesh.



Newton Spitzemberg.



Kaighns Spitzemberg.

Spitzenbergs: Many of these varieties, besides the Esopus, were popular. All were table apples developed in New York, with rich juice and a mellow consistancy.