Space Requirement, Yield, Bearing Age, Pollination Requirement and Life Expectancy of Tree Fruits

Fruit	Minimum Distance Between Plants (Feet)	Approximate Yield per Plant (bushels)	Bearing Age (years)	Pollination Requirement	Life Expectancy (years)
Apple (standard)	25	8	6 to 10	cross	35 to 45
Apple (semi-dwarf)	18	4	4 to 6	cross	20 to 25
Apple (dwarf)	12	1	2 to 3	cross	15 to 20
Apricot	18	2	4	self	25 to 30
Almond	25	40 - 50 lbs.	5	cross	40 to 50
Cherry (sour)	20	60 qt.	4 to 5	self	15 to 20
Cherry (sweet)	25	75 qt.	5 to 7	cross	20 to 30
Fig	15	25 lbs.	2	self	30 to 40
Pear (standard)	25	3	5 to 8	cross	35 to 45
Pear (dwarf)	12	1/2	3 to 4	cross	15 to 20
Peach or nectarine	18	4	3 to 4	self	15 to 20
Persimmon	25	2 to 3	4	self	30 to 35
Plum	18	2	4 to 5	cross	15 to 20
Pomegranate	8	2 to 3	3	self	25 to 30
Quince	15	1	5 to 6	self	30 to 40
Walnut	35	50 to 100 lbs.	8	self	60+

Pollination

Require Cross Pollination

Almond
Apple
Calimyrna fig
Cherry
Filbert
Kiwi
Pear
Pistachio
Plum

Normally Cross Pollinate

Broccoli
Cabbage
Cauliflower
Corn
Cucumber
Lettuce
Musk mellon
Pumkin
Squash
Watermellon
Walnut

Self Fertile

Apricot
Bean
Blueberry
Citrus
Eggplant
Feijoa
Figs (most)
Grapes
Jujube
Loquat
Olive
Pea
Peach - Nectarine
Pepper
Persimmon
Pomegranate
Potato
Raspberry
Strawberry
Tomato

Gabriele's Fruit Tree Pruning Cheat Sheet

When: at planting time, to control branching height,
then ideally 2 x a year:
Summer Pruning (July, August) for size control, de-vigorating
Winter Pruning (late January, February) for detail work
But: water sprouts and broken/damaged branches should be pruned asap, because longer wait = bigger wound, longer healing time, greater chance of infection
The least desirable time is when its warm and wet: risk of infection ->
Weigh risk/benefit!
Do NOT prune apricots and cherries in winter: Eutypa infection danger

What to prune out: DDDDCC
Dead
Diseased
Damaged
Downward pointing
Crossing
Competing

How to cut:
Heading cut (always to an outward pointing bud) **shortens** a branch;
Thinning cut **removes** a branch
Both aim to create outward growing shape, with space for light penetration
Sharp tools often for clean cuts = fast healing,
Don't leave stubs, don't cut into the collar, don't allow bark to tear
angle your cut outward for water to run off; disinfect tools after each tree;
Do not use wound seal for pruning wounds!

Pome fruit	versus	**Stone** fruit
Apples, pears		plums, peaches, nectarines, apricots
Pruned to central leader		pruned to vase (open) shape
No more than 3 tiers, max 4-5 each		max 4 - 5 main scaffold branches
Fruits on 2yr. or older wood		fruits on 1 yr. old wood
Lighter pruning		heavier pruning

Updated 2019

Amount of pruning, location of spurs

Peaches and nectarines bear on 1 yr. old wood and need heavy thinning cuts to let light and air into the tree. Remove 50% of last year's growth.

PEARS bear fruit on spurs on 3 to 10 year old wood. Main limbs are usually headed each year and side limbs are lightly headed or left unheaded, producing spurs and fruit in future years. As in apples, remove older, unproductive spurs and thin middle-aged spurs. Up to two-thirds new growth can be cut back annually.

PERSIMMONS bear on the current season's shoots. Pruning consists of thinning shoots to promote growth for next season's crop and heading cuts to keep fruit within reach.

JAPANESE PLUMS AND ITALIAN PLUMS (PRUNES) bear on fruit spurs which live 5 to 8 years. For varieties that bear heavy crops, remove one-half of the shoots each year. Other varieties, like Santa Rosa, bear moderate to light crops so remove only one-quarter of the shoots.

WALNUTS produce fruit on spurs on 5 year old wood that remains productive for up to 15 years. For the mature tree, a pruning program can consist of applying the general pruning principles described above.

APPLES produce fruiting spurs on wood 2 years and older that are productive for 6 to 10 years. Thin out branches to admit sufficient light to all parts of the tree; this will encourage new spurs to develop. Remove older, unproductive spurs as the tree matures. You may also need to thin spurs. Up to two-thirds new growth can be cut back annually.

APRICOTS bear the bulk of their fruit on 2 year old wood. Because of a current influx of the bacteria Eutypa, we recommend pruning Apricots in July and August, ideally, or by late September. All new growth can be cut back approximately by two-thirds. This wood will grow fruit spurs the second year and produce fruit the third year.

CHERRIES are borne on long-lived spurs that are productive for 10 to 12 years. When trees are young, head back main limbs one-third to create branching. Continue heading to create more branching and thus, more spurs. Because spurs are long-lived, thinning cuts tend to predominate pruning in phase two.

Apples, pears, apricots and plums: remove 20% of last year's growth; cut new growth back by 2/3.

Fruit Tree MG Training Material (navigating my handouts...)

Items in Italics are given in **printed form,** the rest is available for free download – follow link or search in catalog by #!)

1. ***Fruit, Nut & Berry Culture for Master Gardeners***
2. ***Fruit Web Resources***
3. Don't grow too much!
4. ***Space requirement, Yield, Bearing Age, ...***
5. ***Planting Bareroot Trees***
6. Planting & Care of Young Trees (ANR Publ. 8048)
7. Training & Pruning Deciduous Trees (ANR Publ. 8057)
8. Pruning Overgrown Deciduous Trees (ANR Publ. 8058)
9. ***Gabriele's Fruit Tree Pruning Cheat Sheet*** (take out to Orchard)
10. ***Amount of Pruning, Location of Spurs***
11. watering table for temperate fruit trees:
    http://homeorchard.ucdavis.edu/daily-water-use-vossen.pdf
12: Winter Pest Management in Backyard Fruit Trees:
    http://anrcatalog.ucanr.edu/pdf/8368.pdf
13. control options for Major North Coast Stone Fruit Diseases in Home Orchards:
    http://celake.ucanr.edu/files/133891.pdf
14. http://homeorchard.ucanr.edu/

(for **all** fruit cultural questions and procedures!)

Pruning videos:

Not as good as a workshop, but close....:

(with Chuck Ingels for Dave Wilson Nursery):

Grape Pruning Spur Type:
http://www.youtube.com/watch?v=mwwZBQat8Vg

Grape pruning Cane Type:
http://www.youtube.com/watch?v=23jHTybtCms

Peaceful Valley Nursery: Fruit Tree Pruning:
https://www.youtube.com/watch?v=yNytXvxWJIY

Dave Wilson Nursery (Tom Spellman) Winter Fruit Tree Pruning:
https://www.youtube.com/watch?v=FWu4u--cZ84

Alabama Extension at Auburn University Fruit Tree Pruning:
(somewhat lengthy and preachy, but lots of good information!)
https://www.youtube.com/watch?v=wvH5PS5ILnc

Pruning young trees for structure and form with Larry Costello:
http://www.youtube.com/user/trainingyoungtrees/videos?sort=da&flow=grid&view=0

Notes:

bloom times listed in catalogs or on tags are unreliable (example: mine), but do give a general idea whether early or later blooming relative to other plants from same wholesaler;

FRUIT, NUT, AND BERRY CULTURE
FOR
MASTER GARDENERS

I. Choosing the site
   A. Soil well drained and deep and slightly acid→ neutral pH
      1. Good drainage most important-fertility can be improved
      2. Deep=unlayered (hopefully) for better root growth
   B. Full sun
      1. For better tree growth
      2. Optimum fruit set and fruit quality
   C. Good air circulation
      1. Helps prevent disease (mildew, scab, brown rot, etc.)
      2. Improves fruit appearance – less rusetting, etc.
   D. Avoid frost pockets
      1. Pooling of cold air can cause spring frost damage
      2. Cold air pockets delay ripening of most fruits

II. Planting Disease-free stock! Fruit/Nut Handout
   A. Select and prepare site in advance if possible (fall)
   B. Plant high – base of trunk (crown) above grade
   C. Head tree at 22-24"
      1. Promotes low branching
      2. Helps compensate for roots lost in digging
   D. Paint with white latex paint to prevent sunburn
   E. Mulch to:
      1. Control weeds!!
      2. Conserve moisture
      3. Moderate soil temperature

III. Irrigation
   A. Frequency and amount of water depends on:
      1. Size of plant
      2. Soil type (except for drip irrigation)
      3. Weather conditions
      4. Method of irrigation
         a. Drip irrigate daily

b. Sprinkler or flood (basin) irrigate less often to till soil reservoir. Example: first year tree water every 7-10 days to depth of 2ft., mature tree every 3-4 weeks to dept of 3-4 feet.
c. Keep water away from trunk
d. Apply water in area of dripline and slightly beyond

5. Refer to blue sheet – Water Management for Fruit Trees and Other Plants

IV. Fertilization

A. Nitrogen is most often deficient

1. Apply in early spring and in fall or monthly April thru July
2. Water in well

B. Other elements if plant shows deficiency (leaf symptoms)

1. Iron deficiency fairly common – usually due to:
   a. Waterlogged soil
   b. Soil conditions too alkaline for acid loving plants such as blueberries (or azaleas, etc.)
2. Root damage (gophers, root rot) can be cause for symptoms in leaves
3. Plants in containers need complete fertilizer

C. Slow release types are effective and convenient (Osmocote)

V. Pruning

A. Training the young tree

1. Establishes basic framework of tree – main scaffolds which are:
   a. Low branching
   b. Wide angled for strength
   c. Well spaced apart, vertically and horizontally
2. Includes spreading, tying, pinching as well as pruning

B. Pruning the mature tree

1. For renewal of fruiting wood throughout the tree
2. To allow sunlight and air circulation to all parts of the tree
3. Removal of dead or diseased branches
4. Size control
5. Preliminary thinning of fruit load

C. Training systems

1. Vase shaped or open center
   a. 3 or 4 scaffolds in goblet shape
   b. Used for stone fruits, pears, standard apple trees
2. Central leader
   a. Side limbs developed from central axis (trunk)
   b. Used for semi-dwarf apples, chestnuts
   c. Side limbs spread to 45-60 degree angle

3. Various other systems to meet special needs
    a. Modified central leader (walnuts)
    b. Delayed open center – for trees with upright habit
    c. Espalier – many styles, formal and informal, for decorative purposes and size control
    d. Hedgerow system for productivity and ease of maintenance. Example: dwarf or semi-dwarf apples

D. Techniques
1. Heading – cutting off part of a limb or shoot
    a. Induces branching immediately below the cut
    b. Shortens and stiffens limbs

2. Thinning – removal of an entire shoot or limb where it originates
    a. Inhibits branching and lets remaining limbs grow longer
    b. Directs and modifies growth

→ tree systems

VI. Pollination Requirements – KEY=GOOD WEATHER (wind/rain/temps etc.) for pollen tube growth for bees

A. Self fertile or self- compatible - only one plant required (grapes, some plums, monoecious)

B. Partially self fertile – preferable to have a pollinizer (pears, some plums, some walnuts)

C. Cross pollination required from a different variety most deciduous fruits
1. Bloom periods must overlap

2. Should be situated within 100 feet or one another

3. Viable pollen (some apples don't have e.q. Gravenstein)

D. Parthenocarpic – pollination not required for fruit set (kaki persimmons, Bartlett pear)

E. Dioescious – separate male and female plants required (kiwi, pistachios)

VII. Chill factor – applies to deciduous fruits

A. Number of hours of temperature below 45 degrees (and above freezing) needed to break dormancy.

B. Requirements vary greatly – 100-200 hrs. – fig and grapes – 1000+ Hours – some apples, nuts

C. Sonoma county has adequate chilling for most common deciduous fruits

CHILLING REQUIREMENTS OF DIFFERENT DECIDUOUS ORCHARD SPECIES

Type of Fruit	Number of hours below 45°F needed to break the rest (approximately)	Equivalent time in days, weeks, or months if continuously exposed to 45°F or below (approximately)
American plum (P. americana)	3,600	5 months
Apple	1,200 – 1,500	7 – 9 weeks
Pear	1,200 – 1,500	7 – 9 weeks
Sour cherry	1,200	7 weeks
Sweet cherry	1,100 – 1,300	6 – 8 weeks
Peach and Nectarine	1,000 – 1, 200 [200 hrs. (some)]	6 - 7 weeks
European plum (P. domestica)	800 – 1,100	5 - 6 weeks
Persian walnut	700 (Payne) – 1,500 (Franquette)	4 – 9 weeks
Japanese plum (P. salicina)	700 – 1,000	4 – 6 weeks
Apricot	700 – 1,000	4 – 6 weeks
Almond	200 – 300	8 – 13 days
Oriental Persimmon	Less than 100	4 days
Fig	None	---------

Chilling requirements among varieties varies considerably, sometimes more than among species. This is a general guide. Sonoma County receives an average of 1300 chilling hours per year and ranges from 700 to 1850.

VIII. Ten Most Important Fruit Tree Insects

A.	Pacific Flat Headed Borer	p. 80
	Shothole Borer	p.81
	Mites	p. 116-123
	Aphids	p. 96-102
	San Jose Scale	p. 106-107
	Codling Moth	p. 53-57
	Leaf Feeding Caterpillars (ex. redhumped caterpillar)	p. 62
	Tree Bugs (ex. boxelder, lygus bugs, stink bugs)	p. 88-92
	Walnut Husk Fly	p. 260 (use walnut IPM manual)
	Thrips	p. 125-126

IX. Twelve Most Important Fruit Tree Diseases

A.	Fire Blight	p. 237, 255 (use pear IPM manual)
	Pseudomonas Syringe (Bacterial Canker/Blast)	p. 152-154
	Crown Gall	p. 167
	Phytophthora Root and Crown Rot	p. 162-165
	Oak Root Fungus	p. 165-166
	Verticillum Wilt	strawberries
	Apple – Pear Scab	p. 154-155
	Powdery Mildew	p. 140-143
	Brown Rot Stone Fruits	p. 144-145
	Peach Leaf Curl	p. 151-152
	Botrytis	p. 146-147
	Viruses (ex. blackline)	p. 156-160

TREE	FRUITING HABIT	FRUITING WOOD	BUD TYPE	# BUDS/NODE SHOOTS
Almond	laterally on spurs	1 yr. wood	simple	one
Apricot	laterally on spurs	1 yr. wood	simple	three
Cherry	laterally on spurs	1 yr. wood	simple	one
Japanese Plum	laterally on spurs	1 yr. wood	simple	three
European Plum	laterally on spurs	1 yr. wood	simple	one
Apple	Terminal spurs	current wood	mixed	one
Pear	Terminal spurs	current wood	mixed	one
Persian Walnut	Terminal spurs (mature)	current wood	mixed and simple ♀ (catkin) ♂	two
	lateral shoots (young)			
Peach	lateral shoots	1 yr. wood	simple	three
Fig	lateral shoots	current (2^{nd} crop) and 1 yr. wood (1^{st} crop)	mixed and simple	three

Fruits Varieties for Lake County

Lake Co is characterized by cold winters, long, cold, rainy springs, hot summer days and potentially early fall rains and frost. There are plenty of winter chilling hours, hours below 45 degrees between Nov. 1 and Feb. 15, but varieties that bloom relatively late as well as those requiring a fairly short growing season to mature their crop (less than 6 months) are preferred. Frost protection will be required in the spring, as well as protection from the birds as fruits ripen. Fruit trees require a big commitment of time and effort. The following varieties are **suggestions** only. The experience of neighbors and local nurseries should be obtained when choosing a variety. Listed varieties may not be available every year from every source. Publications for further reading are available at the UCCE Office.

Fruits

Apple

Suggested varieties: Arkansas Black, Enterprise, Gala, Golden Delicious, Granny Smith, Mollie Delicious, Honeycrisp, Jonafree, Jonagold, McIntosh, Mutsu, Nothern Spy, Red Free, Red Gravenstein, Red Spur Delicious, Rome Beauty, Sierra Beauty, Spartan, Stayman Winsap, Yellow Newton.

Apricots

Suggested Varieties: Chinese (Morman), Goldcot, Harlow, Moorpark, Puget Gold, Rival (requires a pollenizer), Royal Blenheim, Sunglo, Tilton, Tomcat, Wenatchee.

Apricot-Plum Crosses (Pluot-Zaiger patented crosses)

Suggested Varieties: Flavor King, Flavor Supreme.

Cherry

Suggested Varieties: **Sweet Cherries**- Bing, Jubilee, Lambert, Royal Ann, Sam, Rainier, Stella (self fertile), Van Vista. **Sour (pie) Cherries:** Meteor, Montmorency, North Star.

Fig

Suggested Varieties: Black Mission, Latterula, Peter's Honey, Brown Turkey, Neveralla, Violette de Bordeaux, Petite Negri (dwarf for containers)

Guava

Suggested Varieties: Nazemeth

Nectarine

Suggested Varieties: Artic Star, Heavenly White, Independence, Juneglo,

Olive

Suggested Varieties: Mission, Sevillano

Peach

Suggested Varieties: Early Elberta, Fay Elberta, Frost, Golden Glory Genetic Dwarf, Indian Free (requires a pollenizer) , Mary Jane. Ozark, Q-18, Red Haven, Reliance, Veteran.

Pear

Suggested Varieties: **European Pears** – Bartlett, Bosc, California, Cascade, Comice (M), Concorde, Conference, Flemish Beauty, Red Clapp (Stark rimson, SuperRed), Red Sensation, Rosired Bartlett (E), Seckel (G), Winter Nelis **Asian Pears:** Atago (M), Hosui (M), 20th Century, Shinseiki.

Persimmon

Suggested Varieties: Chocolate, Fuyu, Gino, Izu, Hachiya, Hyakume, Maru, Meader and native species (Diospyros virginiana).

Plum & Prune

Suggested Varieties: **Plums**- Blufre, Damson, Empress, Golden Nectar, Green Gage, Halian, Yakima, President. **Prunes**- Stanley, French Improved.

Pomegranate

Suggested Varieties: Wonderful, Granada, Ruby Red.

Quince

Suggested Varieties: Champion, Orange, Pineapple, Smyrna, Van Deman.

Don't Plant Too Much

Travis Callahan

Contrary to what one might first conclude from the above title, this is not a negative article. It is instead designed to aid neophytes in planning their new orchards. We all learn from our experiences if we are indeed receptive to the idea of teaching ourselves. T.O. Warren once told me to observe my trees and they would teach me. Thus I have been taught so well that I feel I must share what I have learned with you.

First, Don't Get Carried Away

As we first discover the wonderful world of fruit growing, we approach the new hobby like a race horse leaving the starting gate. Here's how it goes: Suddenly I have to have one of every plant that has ever been grown in the entire world. I need a thirty-acre orchard, the largest trees I can buy from the local plant nursery and one each of everything in the new plant catalogs Joe gave me.

Wrong approach!

The most important step in beginning your new orchard is planning. The information below therefore approaches orchard planning from the standpoint of a person with a small space such as a city lot.

Laying Out the Planting Area

The biggest mistake I made with my own 1.3-acre yard was attempting to plant as many trees there as possible. I had already set out several trees from the period when I was a member of the Louisiana Native Plant Society. I had planted some of everything (30 trees) that was on display at the first meeting I attended. Thank goodness it was a native plant conference; at least what I planted then has thrived. I laid out my trees basically around the perimeter of the lot and ended that planting session with the mayhaw tree that started my venture into the fruit-tree phase.

As I planted the trees, I studied all I could about them and became very interested in native fruits. Now looking back over the addition of 65 fruit trees, 13 muscadines, a blueberry bed, and numerous fruiting shrubs, I think I planted too much.

The first mistake I made was crowding the planting of the fruit trees and vines. In the muscadine vineyard, I planted vines six feet apart; now I cannot walk between the rows without heavy pruning. My production has declined because a nearby native pecan tree has gradually shaded the muscadine planting over the past 11 years. This fall I must remove every other muscadine vine and prune very large branches from this gigantic pecan, which was here when I bought the property.

I have just completed the removal of a three-foot diameter oak on the back line that was also here when I became the proprietor. I had no idea that an oak could increase in diameter from eight inches to three feet in 11 years. This one had some annual growth rings exceeding one and a half inches. The tree was also dangerous to remove because of its size, which I attribute to the fact that for years I had 350 pots of grafted fruit trees under it—watering and fertilizing the containers really helped the oak to grow. The real reason I removed the oak was that it had overgrown my Elliot pecan tree that I had planted 10 years ago.

I recommend that new fruit growers in the Southern Fruit Fellowship locate someone with fruit-growing experience and visit with that person before the first tree is planted. Seek advice. Learn which trees grow well in your area. Pay particular attention to the size of the full-grown fruit trees of the type that you wish to plant. For example, a pear tree, which you will hear more about here, can get very big. It is sad to resort to intensive pruning to keep a tree small because it was not allocated enough space when it was originally planted.

Buying Your Trees

Some of the best advertisers in the world must work for the large nurseries. When I first got a Stark Brothers fruit-tree catalog I just had to place a large order. Everything looked and sounded as though this was the best tree for my area. Because I live in Zone 8/9, many varieties of fruit trees will not produce here because of the lack of chilling hours. However, nowhere in these nursery catalogs will you see a caution that some trees will not bear fruit in Zone 9. Believe me, many will not.

I have seen our local Wal-Mart store selling plums that require 1,000 hours of chill. The average person will buy such a tree because of the pretty picture on the tag. It will never produce fruit here in Abbeville, La., where we sometimes only have 150 hours of chilling. Yet no warning of any sort is offered, except sometimes in the small print on the tag, which this average person may not read—and might not understand the concept of chilling anyway.

A friend of mine here in town just removed his giant 'Warren' pear after 12 years. In all that time it never set more than two fruit. When my dreams about Warrens finally evaporated about four years ago, I removed them. I know now that people living in cooler zones are able to grow many varieties that I can only dream of growing.

Disease Susceptibility

Another factor that you must consider is disease susceptibility. Some trees are prone to certain diseases such as fire blight. I decided to attempt to grow the 'Comice' pear, despite the warnings of many of my NAFEX Southern Pear Interest Group members. I was told that in my climate the tree would not survive because it is very susceptible to blight. I nevertheless ordered a very expensive specimen and planted it in a large container with plans to grow it for two seasons, then plant it in the yard. With dismay I witnessed the tree's death one branch at a time while other pear cultivars in containers next to it thrived. Two years later there was nothing left of that expensive tree.

The '20th Century' pear is known for its fire-blight susceptibility here in the deep South and in many other areas. A nearby friend of mine had a beautiful '20th Century' in his yard that had never blighted. I got scion wood from his tree and grafted my own, planting it at another property I own six miles distant from the parent tree. Last season more than half of my tree died from blight.

The pear trees on either side of it showed no signs of the disease. This season my friend is removing his tree. It has lost most of its limbs from extreme blight.

I have enjoyed considerable success in locating local fruit trees that are both old and disease-free. Many of these are unknown cultivars. I now advocate planting local trees.

How to Experiment

Most fruit growers desire an extensive collection of fruit trees. Many want to test varieties for suitability to their own areas. With a small growing area the tendency is to plant trees too close together. To avoid this many growers are planting trees grafted on dwarf rootstock. This creates an additional requirement: be certain that the rootstock is suitable for your area. Check with local commercial growers to see what they use as understock. Learn from the experience of others.

I also use "variety trees" for testing purposes. I selected a very fast-growing 'Moon Glo' pear tree in the yard as a variety tree once I learned that it would not produce fruit in my climate (another example of good advertising that misrepresents the capabilities of certain fruit trees). I have since grafted 17 varieties of pear on that tree. Last year several of the grafted limbs produced fruit. I also have a plum variety tree.

How Many of Each

Another early mistake I made was planting too many of each kind of fruit. I have 14 pear trees planted in my yard. Perhaps you have never seen a mature healthy pear tree with a bumper crop of fruit. Trust me: if the first pear tree you see in this condition is your own, the first thought that will cross your mind will be, "What do I do with all this?" Now multiply that volume of fruit times 14.

Most people assume that they will be able to sell all the excess fruit that their trees produce. In some cases, and in some areas, this is true. I am participating in a joint venture with my son to cultivate a 200-tree mayhaw orchard. This orchard is now in its sixth year, and I know that unless something changes soon we will have rotten fruit everywhere next season. I have worked at local marketing of the mayhaws for the past three years and I was barely able to sell this year's production. One possible market is the use of muscadine in home-made preserves. However, many people today lack the time or interest for such pursuits. My son left an estimated 600 gallons of muscadines in his vineyard this year because of a lack of market. A winery did offer us 40 dollars per ton for the muscadine fruit if we would agree to deliver it to their place one hundred miles from here.

One of the biggest problems with marketing a large amount of fruit is public education. One of the finest fresh fruits that can be grown is the non-astringent persimmon. These trees are trouble-free in most places and usually require very little spraying. Very few people are familiar with the non-astringent persimmon and only remember some long-ago encounter with an unripe astringent fruit. Unless you are near a large Asian population, don't count on selling all the persimmons you can grow.

Location is everything. Very few people in my area are familiar with the wonderful mayhaw, while in North Louisiana it is much in demand. Naturally, if you are near a large population center, marketing your excess fruit will be easier.

In Summary

If I were doing it all over again, I would change several things.

- I would research a lot more than I did. There is a wealth of fruit-growing information available from members of SFF, NAFEX and CRFG.
- I would have no more than three of each kind of fruit. One of these would be a variety tree. Because I grow many kinds of fruit, this would still be a yard full.
- I would not plant randomly all over the yard, but would designate one area for that purpose. Watering my fruit trees is now a major chore because I cannot arrange drip irrigation with the trees as spread out as mine are. I do have drip irrigation in my commercial orchard at another location.

As fruit growers we enjoy one of the finest hobbies that I know of. There is a great sense of accomplishment when your trees first bear fruit. The one thing that we don't want to do is create so much work for ourselves that our hobby becomes just another chore. If I can be of assistance to anyone just starting out, please feel free to contact me. I will gladly discuss with you the mistakes I have made, and how to avoid them. All fruit-growing groups are organizations of fellowship and it is my pleasure to be of assistance.

Travis Callahan gardens year-round in Abbeville, one of many South Louisiana locales that enjoy fairly mild winters. He grows trees and flowering shrubs native to the area and has an extensive fruit orchard numbering some 300 trees and many muscadine grapes. He is currently the chairman of the NAFEX Southern Pear Interest Group. NAFEX, the North American Fruit Explorers, is a 3,000-member amateur fruit-growing organization. Travis is also a member of the Southern Fruit Fellowship (SFF), another fine group totaling 300 members. Readers may e-mail Travis at tndeecal@worldnet.att.net. He invites those who are interested to visit his Mayhaw web page at www.geocities.com/ccduster/mayhaw.htm and his garden page at www.geocities.com/ccduster/page3.htm.

PLANTING BAREROOT TREES

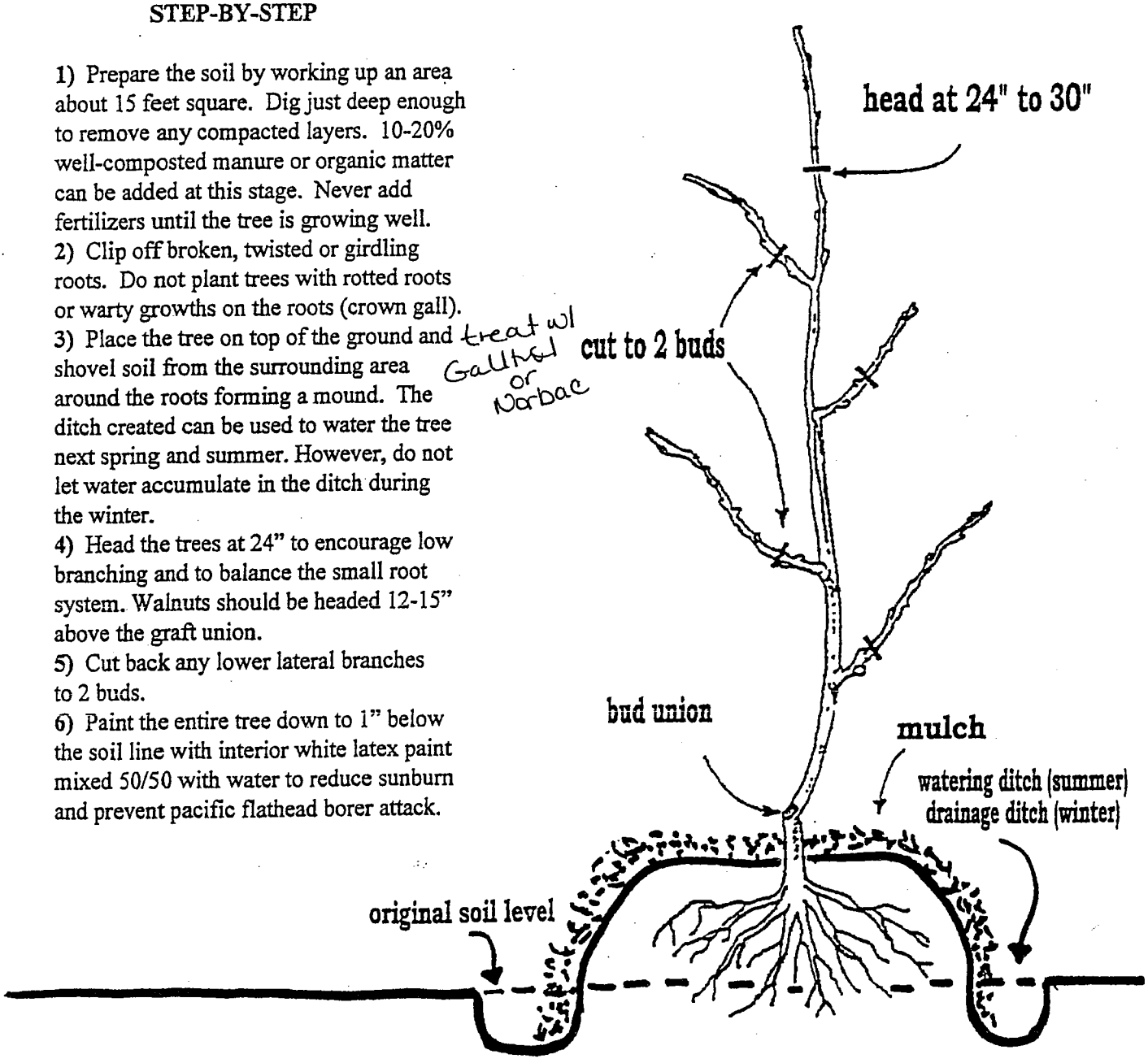
All fruits, nuts and berries will benefit from mound or raised bed planting. Mound planting is especially helpful in improving growth and reducing root and crown rots for semi-dwarf apple rootstocks, walnut, fig, cherry, apricot, almond, peach and all berries.

Never plant into saturated, wet soil. One solution is to work the ground up in the fall and cover with black plastic to keep it drier; the trees can then be planted anytime. Do not allow roots of bareroot trees to dry out for even a few seconds. Keep them in moist, organic matter or dig a shallow trench and bury the roots temporarily before planting.

Plant high, keeping the crown area above the original soil line. The most fragile part of a tree is this transitional section where the trunk develops into roots (crown). This area should be kept as dry as possible, especially in the spring when the tree is leafing out. Raised planting effectively prevents puddling near the trunk and crown area.

MOUND PLANTING STEP-BY-STEP

1) Prepare the soil by working up an area about 15 feet square. Dig just deep enough to remove any compacted layers. 10-20% well-composted manure or organic matter can be added at this stage. Never add fertilizers until the tree is growing well.
2) Clip off broken, twisted or girdling roots. Do not plant trees with rotted roots or warty growths on the roots (crown gall).
3) Place the tree on top of the ground and shovel soil from the surrounding area around the roots forming a mound. The ditch created can be used to water the tree next spring and summer. However, do not let water accumulate in the ditch during the winter.
4) Head the trees at 24" to encourage low branching and to balance the small root system. Walnuts should be headed 12-15" above the graft union.
5) Cut back any lower lateral branches to 2 buds.
6) Paint the entire tree down to 1" below the soil line with interior white latex paint mixed 50/50 with water to reduce sunburn and prevent pacific flathead borer attack.



Source: Paul Vossen,
Sonoma County Farm Advisor

Web Resources for the Fruit Gardener:

The **Home Orchard book** = (roughly same content as) the **homeorchard website**: Homeorchard.ucanr.edu

Fruit Varieties, rootstocks and their characteristics:
http://homeorchard.ucdavis.edu/varieties.pdf

California Rare Fruit Growers Association:
http://crfg.org/
"Local" Santa Rosa Chapter: http://www.crfg.org/local/chapters/ca_red_em.html
Fruit Facts:
http://www.crfg.org/pubs/frtfacts.html

Stonefruit with LOW chill hour requirement:
http://www.crfg.org/tidbits/StoneFruit.html

Weather Forecast:
http://www.westernwx.com/lakeco/
Chill hours: go to bottom of daily forecast! (Ukiah station at Ruddick's)

Wholesale Nurseries to peruse for cultivar (variety) information:
www.davewilsonm
www.sierragoldtrees.com
www.burchellnursery.com
www.lecooke.com
www.fowlernurseries.com
www.raintreenursery.com (Retail)
www.treesofantiquity.com (Retail)
as well as your local nurseries

ANR Catalog for free download of Fruit Tree Publications (search by #!)http://anrcatalog.ucanr.edu/
8048 Planting and Care of Young Trees
8057 Training and Pruning Deciduous Trees
8058 Pruning Overgrown Deciduous Trees
8368 Winter Pest Management in Deciduous Backyard Fruit Trees
#s 8261, 8047, 7426, and more...

Recipe for Bordeaux Mixture (more effective than copper soap as dormant spray for fungal control):
http://ipm.ucanr.edu/PMG/PESTNOTES/pn7481.html
Budding and Grafting:
https://www.youtube.com/watch?v=KQv65gYTtNU