Pruning Fruit Trees
By James R. Sais
HARVESTING AT ITS PRIME
Common Fruit Tree Training Systems

Central Leader

Modified Central Leader

Open Vase (or center)
PRUNING DEFINED

• PRUNING CAN BE DEFINED AS AN ART AND A SCIENCE OF REMOVING A PART OR PARTS OF A PLANT TO HELP IT DEVELOP ITS FULL POTENTIAL.
Professional Help?
WHEN IT IS THE BEST TIME TO PRUNE?

DURING THE DORMANT SEASON

BUT THERE ARE ALWAYS EXCEPTIONS
Use Proper Tools

Pruning Tools

Handheld pruning shears: Use for cutting stems up to ⅛ in diameter. Scissor types (illustrated) cut closer than anvil types, which can crush bark if not very sharp.

Hedge shears: Use for trimming formal hedges when a neat wall of foliage is the goal.

Wide-blade saw: Use this sturdy saw on the largest limbs. Its angled teeth work on the pull stroke—the opposite of how a carpenter’s saw works.

Lopping shears: Their long handles provide extra leverage, making lopping shears capable of cutting through stems up to ⅛” in diameter. Blades may be either anvil or scissor type.

Narrow curved pruning saw: The narrow curved blade makes this tool useful for sawing off crowded stems or branches with narrow angles of attachment.

Double-edged saw: One side of the blade has teeth that cut when the saw is pushed, making it useful for small branches; the other side has coarse teeth that cut both on the push and pull strokes, and is useful for removing larger branches.

Electric hedge shears: These electric-powered shears make quick work of major hedge-trimming jobs. They are faster and easier to use than manual shears, but must be used with care.

Bow saw: Bow saws are light in weight but strong enough to cut through large branches. The blades can be replaced.

Extension-pole loppers: These lopping shears mounted on the end of an extension pole are handy for clipping small overhead branches.

Extension-pole saw: Mounted on a long extendible pole, this saw is useful for removing small overhead or hard-to-reach tree branches.

Chain saw: Time and labor-saving chain saws make quick work of sawing through branches larger than 3” in diameter. They should be operated with extreme caution.
Proper Pruning Cuts

Correct
45 deg. Angle

Too angular

Too low

Too high
Cutting Larger Branches
Result of Improper Branch Cut
Healing Over
Avoid narrow branch angles
Dwarfing Rootstocks
What Can You Grow?
Where Does Fruit Form?

Apple-spurs on older wood
Where does fruit form?
Pears on long-lived spurs
Where Does Fruit Form?

Peach on last year’s growth
Where Does Fruit Form?

Cherries - spurs that can live up to 10 years
Where Does Fruit Form?
Apricots - on 2 YO branches, on spurs that can live up to 3 years. Also on last year’s growth.
Where does fruit form?
Plums-European and Japanese
Late frosts affect fruit production
No fruit the first year
No fruit the second year
No fruit the third year
Weight of fruit breaks branch
Apple Fruiting Spurs
Professional Pruning Job?
Improper Pruning
REASONS FOR PRUNING

1. To train a plant.
   Training is the practice of directing tree growth to a desired shape and form.
   
   Generally it is performed on young trees.
1. To train a fruit tree

Common Fruit Tree Training Systems

- Central Leader
- Modified Central Leader
- Vase System
Spreading tools
Spreading branches
2. To remove dead and injured wood.
3. To remove diseased and insect damaged wood.
4. To promote new growth

New growth is often more productive than older growth. Prune to develop new growth to replace older growth.
5. To remove undesirable growth
6. Competing Branches
Competing Branches
7. To Develop A Strong Framework

45-60° strongest
8. To Improve Quality Of Fruit and Foliage
9. To Restrict and Redirect Growth
9. To Restrict and Redirect Growth
10. To Allow For Easier:

• Pruning
• Cultivation
• Spraying
• Harvesting
Summary of Pruning
Central Leader
CENTRAL LEADER SYSTEM
Modified Central Leader
Vase System
Espalier
Espalier Forms

A

B

C

D

E

F
Pruning Grapes
by James Sais
Early Wine Production in New Mexico
AMERICAN GRAPE

Vitus labrusca

1. More winter hardy
2. Less prone to diseases and insects
3. Inferior in making wine, but good for jelly and juice
4. Have a foxy flavor
5. Skin separates from pulp
6. Have a fuzzy underside to leaves
EUROPEAN GRAPE

*Vitis vinefera*

1. Less cold tolerant
2. Better flavor
3. Better for wine making
4. Eat entire fruit
5. Leaves are smooth on the undersides
6. More prone to diseases and insects
FRENCH AND AMERICAN HYBRIDS

French Hybrids are crosses between European and Wild American Grapes. Some cultivars produce good wine, while others are acceptable as table grapes.

American Hybrids are produced by crossing American and European types and have better winter hardiness and insect resistance.
GROWTH FROM PREVIOUS YEAR

Bud

Internode

Tendril
EUROPEAN GRAPES PRODUCE BEST ON FIRST TWO BUDS OF LAST YEAR’S GROWTH
AMERICAN AND SOME EUROPEAN GRAPES PRODUCE BEST ON THE FIRST 10 TO 12 BUDS
Spacing
Prune grapes in dormant season
Early New Mexico Grape Growers Did Not Use Trellises
After Frost Vines Were Tied Together and Soil Mounded to 2 Feet
After Danger of Frost
Soil Was Removed and
Canes Were Pruned Back to 2 Buds
HEAD SYSTEM PRUNING
HEAD SYSTEM AFTER PRUNING
4 CANE KNIFFIN SYSTEM

Grape Before Pruning

Canes from Last Year
REMOVE ALL EXCEPT
4 CANES
CUT BACK TO 10 TO 12
BUDS

LEAVE 4 RENEWAL BUDS
OF 2 BUDS EACH FOR A
TOTAL OF 48 TO 56 BUDS
4 CANE KNIFFIN SYSTEM

Renewal Spurs

1 Year Old Canes

Trunk
CORDON SYSTEM

1st wire 20 to 40 inches from ground

2nd wire 14” above

Cut back to two buds per spur
CORDON SYSTEM NEW GROWTH

Vertical arm shoots (2 per spur)
CORDON SYSTEM BEFORE PRUNING
CORDON SYSTEM AFTER PRUNING
Grapeleaf Skeletonizer Larvae
Grapeleaf Skeletonizer Larva and Adult

Larva

Adult
Grape Leafhopper

Adult

Nymph

Photo Credit: Cornell University and the New York State IPM Program
Green June Beetle
Chlorosis