



DORMANT PRUNING GUIDE

WHY PRUNE?

Prune your trees! If you do not prune your trees they will look like this. Trees with this structure do not produce good fruit!



1) Remove Dead, Diseased, & Damaged
Removing dead, diseased and damaged wood helps prevent the spread of disease and infection in trees

2) Tree Structure

Appropriate structure will complement the natural growth habits of the tree and allow the tree to support a full fruit load.

3) Prune for Sunlight and Air Flow

Opening up the interior of the tree to sunlight helps with flower bud development and more even ripening of fruit. Air, similarly, needs to be able to move through your tree. Humidity can build up in the interior which spreads disease.

WHEN SHOULD YOU PRUNE?

Dormant pruning should take place **before** buds begin to swell. This usually means **late January through early March**. Most tree diseases are dormant during winter limiting their spread. By waiting for the **late January to early March** timeframe the tree will heal as it starts to wake up and grow in the spring. Avoid pruning during precipitation to prevent the spread of disease and rot.

Do not prune in the fall or early winter (October through December), the tree does not have time to heal before cold temperatures arrive.



EQUIPMENT

- By-pass Hand Pruners (Felco 2)
- Limb Spreaders
- 70% Isopropyl Alcohol & Cloth
- Tie Tape
- Pruning Saw (Silky, Corona)
- Orchard Ladder
- Pole Pruner (Jameson, Corona)
- Loppers (Corona)

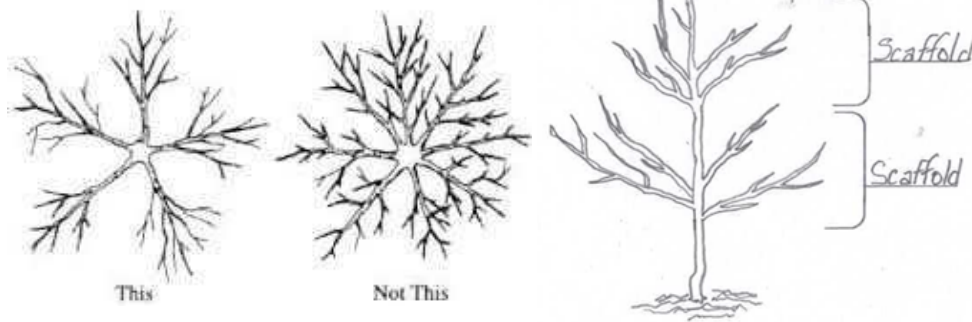
STRUCTURES

Not all trees have the same structure. It is important to follow the appropriate growth pattern to best support your trees' health and fruit production.

CENTRAL LEADER

For Apples, Asian and European Pears this is the main form that is followed. A strong Central leader growth habit typically has 3 tiers of branches called scaffolds at maturity. These scaffolds usually consist of 3-5 branches reaching out from the central leader roughly equally spaced.

SCAFFOLDS FROM ABOVE



Branching should start about 30-36" off the ground with each scaffold having its branches grouped within about 15 inches. With 15 inches without major branches before the next scaffold. Avoid stacking branches (pictured to the right) as they will shade each other out.

Example of scaffolds:

- Scaffold 1: 30-42" above ground (2.5-3.5')
- Scaffold 2: 54-72" above ground (4.5-6')
- Scaffold 3: 90-108" above ground (7.5-9')

MODIFIED CENTRAL LEADER

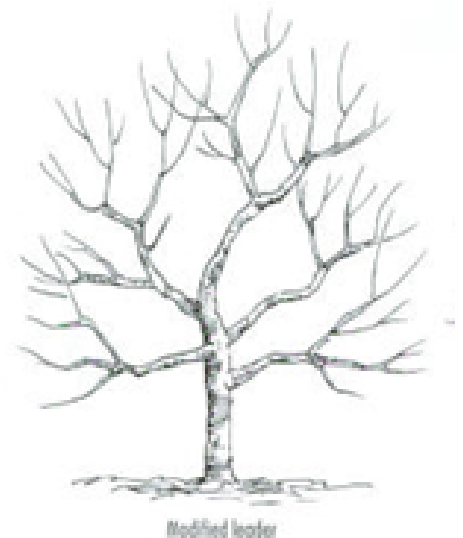
While the Central leader method is preferred for pears and apples, fruit trees are known not to cooperate. A modified central leader will do the job and many apple trees fall into this category. Use the same scaffold system as regular central leader.



CENTRAL LEADER



STACKED BRANCHES



MODIFIED CENTRAL LEADER

OPEN CENTER/VASE

Vase or open center is used to encourage trees to spread branches allowing more light into the interior. Branching should still start around 30-36" off the ground but should split into several different directions. This method is often used with stone fruit, primarily peaches.

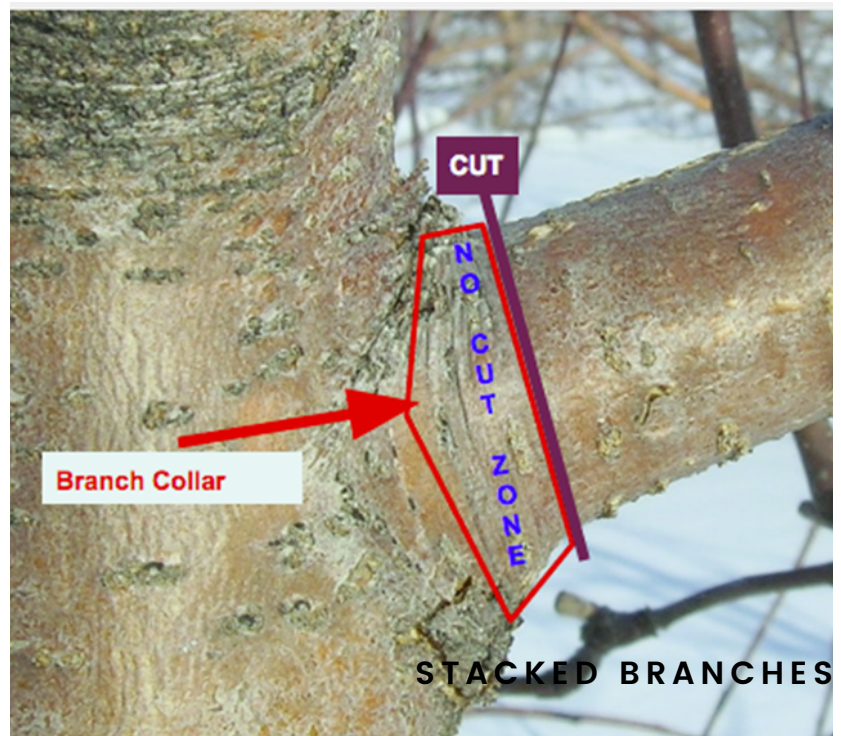


PRUNING TECHNIQUE

LIMBS LESS THAN 1 INCH

To remove a branch less than 1" in diameter, you can make a single cut with your bypass hand pruners just outside the outermost ring of the branch collar (swollen area of compressed rings of bark tissue at the base of a branch). **Do not cut through the branch collar** the tree will not heal properly.

Avoid leaving a stump when making pruning cuts. If more than 1/4" of wood is left outside the branch collar, the wound would not heal correctly. This increases the risk of attack by insects and diseases.



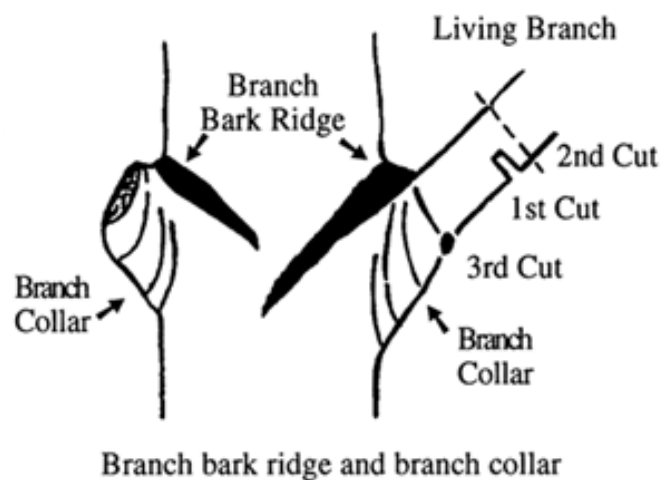
LIMBS GREATER THAN 1 INCH

To remove a branch greater than 1" in diameter, a three cut approach is best. This method **requires a pruning saw**.

The **first cut** should be made on the underside of the branch a few inches from the branch collar and go about 1/3 of the way through the branch. This prevents the weight of the branch from tearing the bark and branch collar.

The **second cut** is made a couple inches farther from the branch collar to remove weight. Cut all the way through the branch on this cut.

The **third cut** should be the same as for a small branch, just outside the branch collar.



BRANCH ANGLES

Good branch angles are between 45° and 60°. Branch angles less than 30° are weaker with bark getting pinched between the branch and trunk. This is easily split with the weight of a decent fruit load. This issue is most common with Asian and European pears.

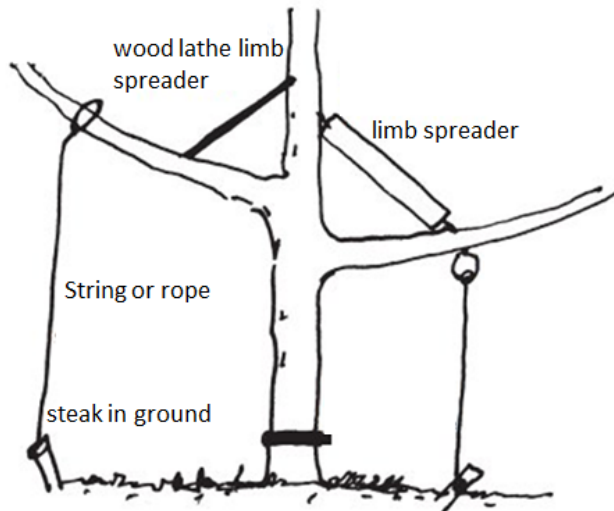


SHAPING METHODS

Spreading, bending, tying, splinting: Using limb spreaders, Hanging weights, and tying branches all help to alter the branch angle of a limb. These are easiest to use while a branch is still supple (usually the first 1-3 years of growth). Splinting a tree with bamboo and tie tape can help straighten a crooked tree and reestablish a central leader. **Remember:** these are not permanent fixtures in your tree, they need to be taken out or adjusted about every 9 months.



SPLINTING A TREE



LIMB SPREADERS OF VARIOUS SIZES



CEMENT WEIGHT



THINNING



BEFORE

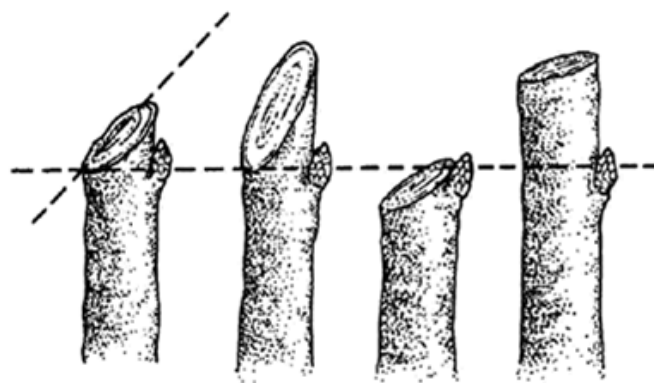
To allow more light and air into the interior, cut small side branches back to their point of origin on the parent branch. This is practiced not only on twigs but on crowded limbs. The European pear was about 2 years old at the time of this pruning. Without pruning, the tree becomes chaotic with lots of vertical growth; pruning and limb spreading allows for growth to be directed into a few branches that will be our scaffold. By eliminating quick growing largely vertical growth, the tree can put more of its energy into strong scaffolds.



AFTER

TIPPING

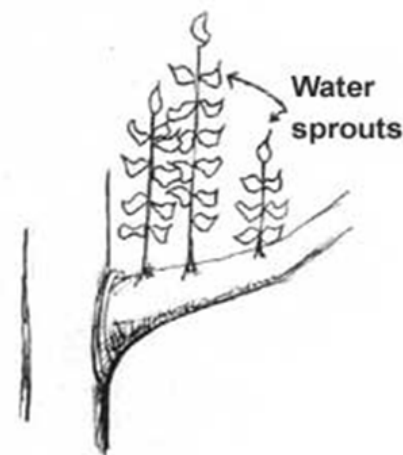
To induce horizontal branching remove the terminal bud to a lateral bud pointing in the direction you want to grow. Make the cut 1/4" above the lateral bud and at an angle parallel to the direction of the bud.



45° angle Good! Too angular Too low Too high

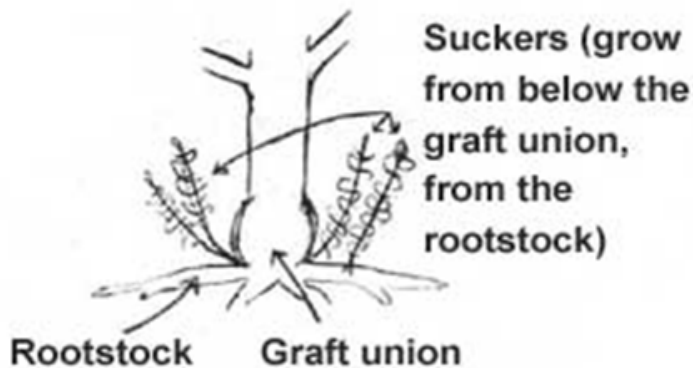
WATERSPROUTS

Watersprouts are long vegetative growth that run parallel to the central leader. These branches draw energy away from fruit producing areas of the tree, shade out the important scaffold branches, and often never produce any fruit.



ROOTSTOCK SUCKERS

Rootstock suckers grow from below the graft union and 'suck' energy away from foliar and fruit growth. These can be removed any time of year.



Except the indicated trunk, all else should be removed.

BLACKBERRIES



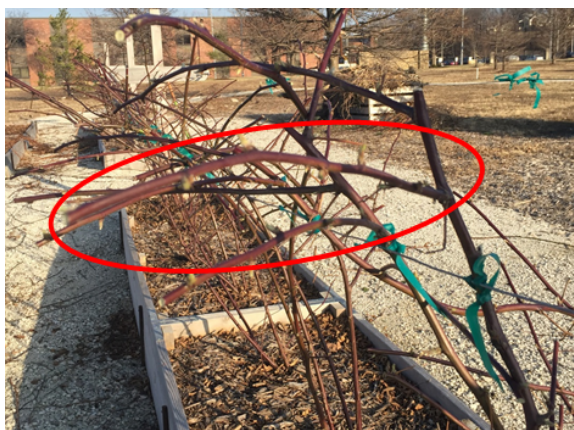
BEFORE



AFTER

In dormancy blackberry canes should all be tied to the same line of the trellis. In early March, just before their buds break, cut lateral growth on these canes back to 12-15". This ensures nutrients can travel to the end of the canes, giving you larger and more flavorful berries. Prune out any dead wood that was not removed last summer.

New canes emerging in the summer should be tied to the opposite line of the trellis, and tipped at 6-8" beyond the line. These new canes will be next year's fruiting canes.



LATERAL BLACKBERRY CANE TIPPED BACK TO 15"

RASPBERRIES

Raspberries should be taken back to the crown (1-2" above the ground) in February. This can be done using hand pruners or with a lawnmower with the deck set as high as it will go.

QUICK PRUNING NOTES

- **Apple** (Malus) – Preferred form depends on variety, but modified central leader works for most. Spreading/bending branches recommended. Thin fruit to 5" apart
- **Pear** (Pyrus) – Central leader or modified central leader. Spreading/bending branches is necessary. Lateral branches are equally spaced around trunk with 6-8" between them. Thin fruit to 5" apart.
- **Asian Pear** (Pyrus) – Central leader or modified central leader. Spreading/bending branches is necessary. Use caution when spreading limbs, they tend to break before they bend. After 5 years fruit buds tend to produce inferior fruit, and new laterals are encouraged to take place of older wood. Thin fruit to 5" apart.
- **Peach** (Prunus persica) – Last to prune in the dormant season. Do not prune during summer. Peaches only fruit on second year wood. Remove up to 50% each year. Thin out twigs under 12", and the crowding twigs. Proper fruit twigs are 12-18" and pencil thick. Thin fruit to 6".
- **Tart Cherry** (Prunus cerasus) – Modified central leader. Thin out crowding in the interior.
- **Sweet Cherry** (Prunus avium) – Modified central leader. Head leader to create side-branching.
- **Jujube** (Zizyphus) – Train as multi-trunk branching at 3-4' off ground. Minimal pruning except to limit height, crossing branches, or over-weighted limbs.
- **Apricot** (Prunus armeniaca) – Open center or modified central leader.
- **Persimmon** (Diospyros) – Modified central leader. Shorten long willowy shoots.
- **Pawpaw** (Asimina) – Minimal pruning needed. Keep root suckers at bay. Tree has central leader, spread laterals to help with sunlight.
- **Bush Cherry** (Prunus x kerrasis) – Use thinning cuts for a less bushy effect. This increases light and air circulation to the interior of the plant. Remove stems that are 4-6 years old 1-2" above ground level, as they are less productive.
- **Fig** (Ficus) – In spring, after bud break (late April), remove branches that have died; this may mean down to the ground. Remove smaller trunks and excess growth throughout the season allowing for 10-12 main trunks.
- **Hazelnut** (Corylus) – Prune to 5-9 trunks. Limit suckers.



**GET OUT
AND PRUNE!**