



Pear Training and Establishment

Several years ago we started experimenting with growing pears as an open center tree. Growing pears as a central leader using the available dwarfing rootstocks ends up giving you a tree that can grow into an unmanageable size and form of 15' or more, which is too tall and difficult to manage.

Open Center training enables you to develop 3 to 4 leaders that will spread all the vigor out over numerous primary branches verses one central leader. The growth habit of pears lends itself to this system because their growth is so upright.

Starting with a tree with 3-4 branches you will want to cut off these shoots to no more than 12" above the point of origin. The objective in this first year is to stiffen up the part of this branch you are keeping. These 3 or 4 branches now become your principle leaders. Spread these branches apart slightly if they are not growing out away from each other. These leaders will grow straight and tall if your trees have good vigor. Have a bamboo pole 1"x 9' pushed into the ground and use one per leader for the first few years to train them straight. Tie the poles together and then tie the new growth from the respective leaders to these poles. Train the growing branches up and keep the new shoots tied to these stakes. Have your bamboo training poles all leaning 5-10% off the vertical and this will safely open up the canopy for proper development in future years.

If you are planting an unbranched whip the first year, make a pruning cut about 4" above where you want the branches to begin. The lower you make this cut the shorter your tree will be. Don't forget you have to manage the area under the tree. Keeping that area clean for the first 4-5 years will maximize the tree's development.

All of the training and pruning principles that are discussed in the apple training apply to pears. Those fundamentals of **branch angle, apical dominance and caliper**

all play an even more significant role in pears.

Second Year

Don't prune those leaders back! Keep them tied up and straight because they will become your main permanent leaders.

By the end of this second year all of those main leaders will have developed several weak wide angled feathers (small branches) up the trunk and very little of the chaotic upright suckers that are created by pruning into one year wood. These feathers you also leave unpruned going into the second year. You will also see your main scaffold branches will be full of flower buds.

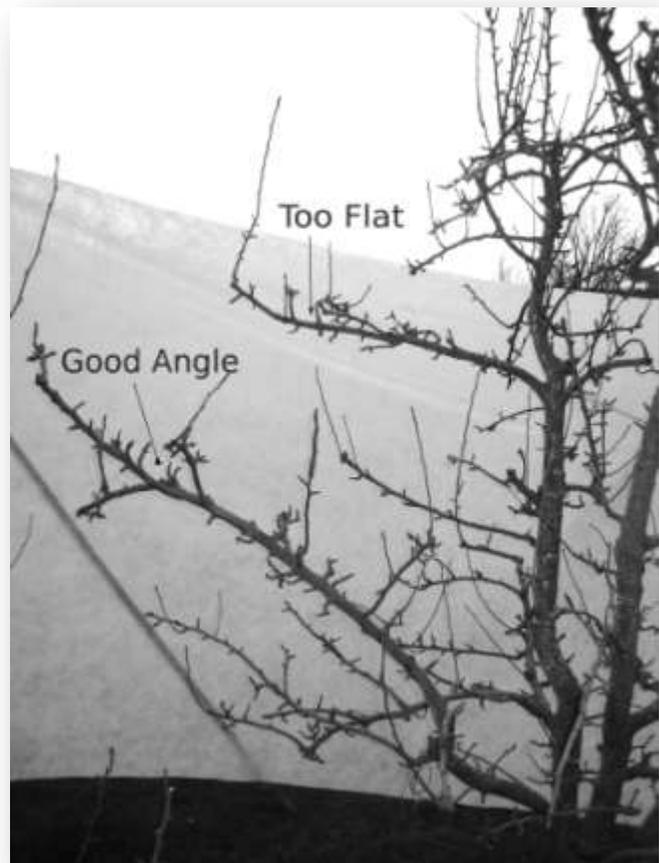
If the tree has any strong uprights cut them out at their base in the dormant season. If you leave the one year wood unpruned (like with apples) you will end up with a good crop of pears 1 year earlier with less work. Manage your crop on the leaders carefully. Don't leave any fruit in the tops of those leaders. You don't want to break your main upright leaders.

European Pears

You will sometimes cut into 1 year wood. Weaker shoots should be left uncut if at all possible. Stronger shoots often need to be pruned to keep the branch growing at the correct angle. This cut is a trade off because it delays fruiting a year. However the getting the branch angle right makes a huge difference.

Save the weaker shoots and bending them away from the vertical will give you lots of spurs. Leave erect shoots missed from the year before **if** they have formed fruiting spurs at dormant pruning.

Pears have strong apical dominance. You must leave a small number of upright shoots to absorb this upright tendency. Don't leave the largest and most vigorous shoots. Leave moderate to weak upright shoots.



The more vigor the tree has, the more shoots you should leave. General recommendation is at least 1 shoot per branch. The bigger the branch, the more shoots. One shoot every 3-4' is usually enough.

Pears are heavier than apples. Varieties like Orcas and Comice can and will produce 2 lb. fruits that will break branches and spurs off the trees. You will need to prop the branches to keep them from breaking.



Two 2 year old pear branches. Sometimes if a branch is pulled a little too flat, it will grow a 'horn' like leader as in the bottom branch in the picture. Finding the right angle for young wood is the key.

Asian Pears

Asian pears are managed very much like European pears. They can bloom on one year wood as well as older wood. They can bear profuse crops of fruit every year. Because you can cut into one year wood on Asian pears, you can thin by pruning to some degree.

The wood of Asian pears is typically brittle and thin, so you have to be careful as you train your tree. The four pruning concepts apply here; caliper, angle of branch, height of branch in the tree and thickness of branch. These trees have very upright shoots like their European cousins and need to be dealt with every year. Because they fruit on new wood they have to be tipped to strengthen the shoot. Make sure you keep the side shoots short and balanced on both sides of the main shoot/branch. Asian pears are famous for pushing all their shoot growth to one side of the branch. This is a problem because the fruit weight will twist the branch to one side and put those side branches at the bottom of you branch where they won't get any sun and need to be cut off.

Stubbing your main lower sets of branches every year will help reduce this twisting problem. Also if you want the leader of any branch to continue growing out from the trunk you must keep the fruit off all of the one year wood and maybe even thin hard back into the two year old wood.