

# Pruning (some) Fruit-Bearing Trees & Shrubs:

## Why, When, What, Where



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### **Perspective.**

This brief review of pruning fruit-bearing trees and shrubs in Minnesota is not intended to be “The Complete Works of Pruning.” Not even close. There is no reason for that since there are so many fine books and publications available on line. This is intended to be a quick guide for those of you out there who are frequently questioned by inexperienced people who have planted or inherited an apple or pear tree, or maybe a mess of currant shrubs.

For the sake of keeping this little guide little, only a relatively few trees and shrubs will be addressed: apples, pears, sour cherries, and currants. Also included will be a section on “for more information,” and another on FAQs; hopefully both will be useful.

### **Why Prune?**



Good and even fruit development on apples, pears and cherries requires good exposure to sunlight. If the tree canopy is too dense, those interior fruit that are shaded will develop and ripen smaller and later than those that are on the outside. Pruning to develop a canopy that maximizes light penetration throughout the tree will help yield more pounds of fruit.

Pruning to allow better air circulation throughout the canopy helps reduce the frequency and extent of some disease problems, especially those fungal diseases. With currants, older canes need to be removed to make room for the most productive three year old canes. Getting the older ones out increases production as well as air circulation and light penetration.

Cherries can suffer severely from brown rot, which doesn’t kill the tree but ruins the harvest. Again, better air circulation helps reduce the problem, although it doesn’t cure it.



**Brown Rot on Sour Cherry Tree – A Fungal Disease**

Pear trees tend to develop multiple leaders with weak attachments, which makes them vulnerable to breakage. Combine that with the fact that pears are prolific fruiterers that add a lot of weight to the leaders and branches and it becomes a recipe for some significant damage due to branches ripping out in wind storms or simply from the weight of the fruit.



Note the Very Upright Growth Habit of This Pear

## When To Prune?

This is a double-edged question. The best time to prune a fruit-bearing tree is during those first 1-5 years after planting to make sure it develops good architecture. For apples and pears, most homeowners prefer pruning them so they retain a single, central leader. This gives them the look of a nice landscape tree that has the added benefit of producing some tasty fruit.



Along with a central leader, the main “scaffold” branches should be selected and nurtured during the formative years. The scaffold branches are the ones that the majority of smaller branches and flower buds will form on, therefore, they should be well-spaced from each other to maximize sunlight, air movement, and balanced around the tree. Spacing between the scaffold branches varies depending on whether the tree is a dwarf, semi-dwarf or standard sized tree, but they should be spaced far enough apart to allow good sunlight penetration.

The other “when” answer relates to the time of the year. Ideally, pruning is done right after the end of brutally cold winter temperatures and before spring growth begins. Minnesota is a tall state and that time of the year can be weeks apart depending on if you live in Caledonia or Bemidji. Roughly speaking, March and April are the best pruning months.

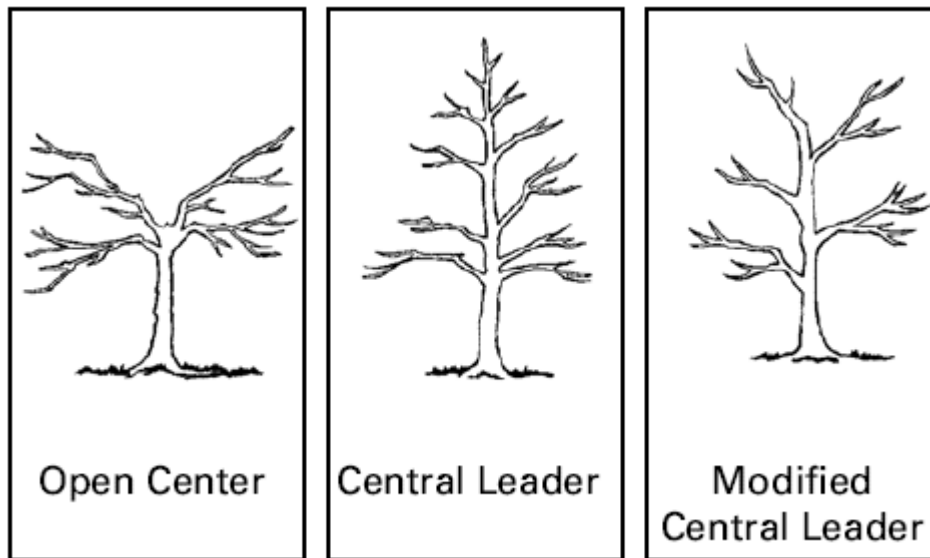
Life gets busy in the late winter and spring, though, and the well-intended plans to prune those trees in March suddenly are remembered in May or June! It’s a lot better to prune then even if they are not the ideal months to prune, rather than let the trees become over-burdened with fruit, plagued by more fungal diseases than necessary, and with fruit so small and scrappy-looking that they’re only good for ciders. Go ahead and prune then, but try to make it as light as possible rather than removing major branches.

## What to Prune?

This is the point when people get nervous. There’s a fear of pruning too much, pruning the wrong branches, not pruning enough...all really good fears as it turns out. The good thing is that it’s not the end of the

world if mistakes are made since plants are pretty resilient and will give you another chance in a year or two to learn from your mistakes.

First, decide whether the best architecture for a fruit-bearing tree is the more traditional looking tree (think of a northern pin oak) with a central leader, a modified leader that keeps the tree a bit smaller, or an open-centered look (think Eastern redbud). There are advantages to all of them. Most homeowners choose the traditional, central-leader system for apples and pears, and the (natural) open-centered look for cherries.



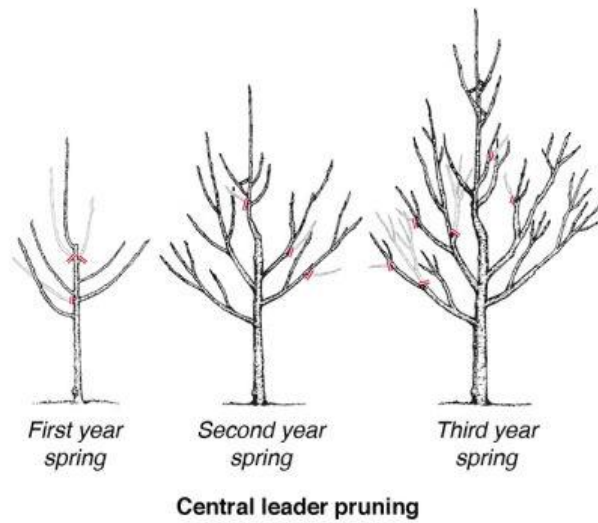
Thank you Ohio State University for the use of this graphic.

Then, decide which horizontal branches you want to keep as the permanent “scaffold” branches that will support the smaller branches and the flower buds that produce the fruit. This is when you decide the spacing between scaffold branches and do your best to make sure they are evenly placed around the tree for balance. Once you have your basic tree architecture developed (it takes a few years), then you will remove any competing scaffold branches that shade the center out too much. ***Note: if you have two potential scaffold branches that are running closely parallel to each other, remove one early on.***

To get that modified central leader look, which is really useful for people who don’t like to work from ladders to pick the fruit, periodically (maybe every 2-3 years) prune back the central leader to a smaller side branch lower down and either let it grow naturally north (you’re taking a chance), or “splint” it to force it to grow upward. To splint it, use a bamboo cane. Attach the cane to the trunk of the tree with zip ties, all the way up past the height of the chosen new leader. Then, pull (gently) the chosen new leader up to the cane and zip tie it in place. If you do this in March-May, by mid-summer it will grow upright on its own...usually.

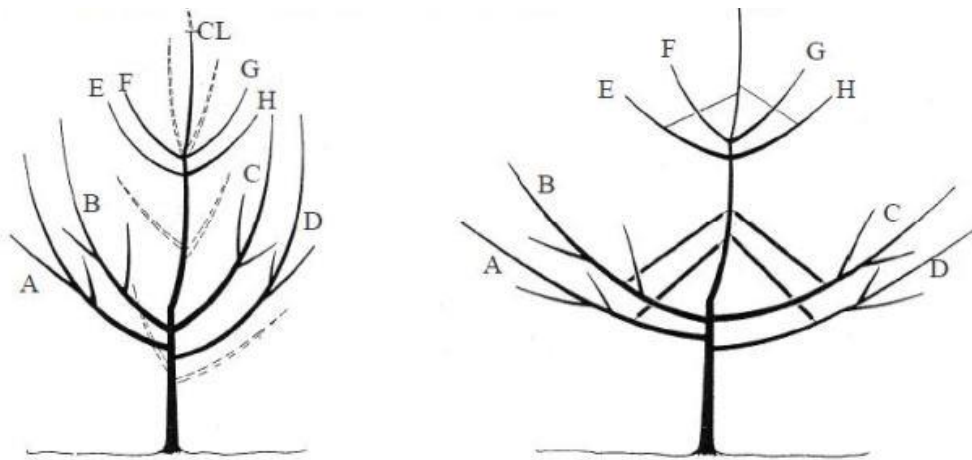
The cherries we grow in Minnesota do well with an open-center architecture, and most of them are very easy to prune in that way. Basically, there’s no leader, and lots of sunlight ripening up all the fruit evenly. It

also makes it easier to harvest the fruit. There tend to be fewer fungal diseases with this system, too. You can still grow them with a central leader, but they seem to adjust more naturally with an open center form.



University of Wisconsin Extension...You Rock! Thanks for the illustration.

Pears can be a challenge because unlike cherry trees, they tend to grow very upright with multiple leaders and produce so much fruit that they break apart a lot, especially with snow loads or windy weather. Because of this, the best pruning is the pruning done when they are small. Prune out all leaders but one. If you choose to keep some of the other leaders, you can force them to grow more horizontally, which reduces the issue of breakage later on.



We're much obliged to the University of Maryland for the use of these great graphics!

In the illustration above, the multiple vertical growing leaders and side branches have been forced to grow more horizontally by the use of “spreaders” or spreader sticks (*see those six angled lines on the right, pushing the branches out?*). Spreader sticks can be made by using 1”x2” lumber, notching the ends into a “V”

shape, padding the notch ends a bit with some cloth or other fabric, and then forcing the branches out by wedging the spreader between the main leader and the other “NBA-Wannabee” leaders. Do this in the spring when the branches are more supple and bendable. It works. After a growing season, you can take the spreaders out.

## What else?

Watersprouts and suckers, basically very fast-growing, very vertical vegetative shoots that don't have flower buds. They're good for photosynthesis, not good for filling your belly or a pie crust. And they tend to shade out the flower buds and developing fruit. Watersprouts grow off of branches and tree trunks. Suckers grow at the ground line next to/from the tree trunks. Prune them out in the spring as they develop, and again in the late autumn.

Don't remove too many flower buds, especially if you're growing the trees for fruit. Flower buds are usually very plump. Leaf buds are usually smaller, skinnier, often growing real close to the branches and twigs. Some fruit tree varieties are “spur-bearing.” Spurs look like short (1/4” to 1.0”), stubby branches, with rings around the stubs. These are the flower and fruit-bearing buds and if they are removed, then you end up with really nice shade trees...but no fruit.

## How about currants?

After all of the work outlined in this primer, there's a good chance you'll choose to grow currants. Hey, they're delicious! You won't need ladders or saws to maintain them. You can easily dry the fruit and enjoy them all winter.



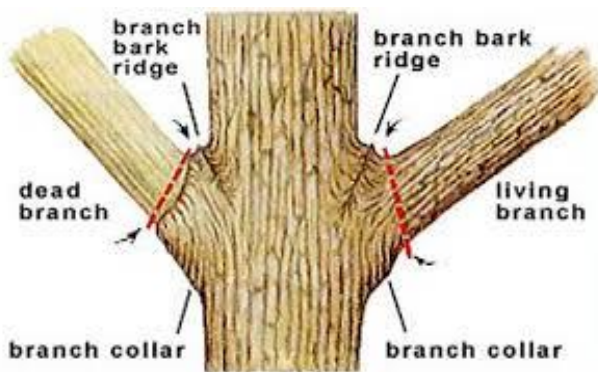
University of Maine...Thanks a Ton for the Spurs!



Our very own University of Minnesota helped with this photo. We're drooling and grateful.

So how do you prune them? Pretty simple. Thin the canes out (the many vertical growing stems) to the ground so there is plenty of sunlight reaching all the flowers and developing fruit. Dwell on keeping three-year-old canes...they're the producers. If the bed of currants gets too thick or unhealthy or ravaged by rabbits, you can cut all the canes back to the ground in the spring or autumn, and within three years there will be plentiful fruit again.

## Where to Prune?



Thank you Smokey Bear and the U.S. Forest Service for this drawing.

This, too, is pretty simple. **Rule #1:** no flush cuts when removing branches. Flush cuts as the name implies are saw or pruner cuts that sever the branch flush with the larger branch or trunk that it was growing from. It leaves too large of a wound and encourages decay. Decay is a major issue with cherries. Please leave as much of the "branch collar" as possible when removing branches. That collar tissue will seal over the pruning wound soon and minimize any decay that could develop in the tree trunk.

**Rule #2:** No chain saws. If you need a chain saw, you waited too long...and you need to hire an arborist for your own safety.

**Rule #3:** Keep your tools clean. After pruning trees with suspected diseases and before moving on to another tree, spray the saw blade and the pruning shears blade with 90% rubbing alcohol. Then light it to burn off the alcohol and reasonably sterilize the blades. If you want, you could toast marshmallows while you do this...or not.

## A Couple of FAQs

**My apple tree doesn't produce a lot of fruit reliably. Some years are good, some are pretty poor. What's the deal?**

*Educated Guess: Perhaps your apple tree is a biennial bearing tree, like the Macoun apple. That's normal for it. Maybe the spring weather has been unpredictable and lousy for good pollination of the flowers...too windy, too rainy, too cold. Maybe the winter temperatures have been unusually cold and they've killed a bunch of the flower buds. Finally, maybe there aren't reliable cross-pollinating trees in your area.*

**What can I do to prevent critter damage in the autumn, winter, spring to my trees?**

*Most of that damage will be from a) rabbits (stop calling them bunnies); b) voles; c) deer (stop calling them Bambis). If you want to make sure none of them will kill/damage your trees, use ¼" hardware cloth to make a tree trunk protector for them. Leave at least an inch of space between the tree trunks and the wire. You can leave this on all year if you choose until the trunk gets too big and you need to make a newer, larger trunk protector.*

*Also, smelly repellents like Liquid Fence work well to protect your plants through the winter. You will need to "freshen" up the plants by re-spraying them every 30-40 days, though. It's worth it and those products work very well.*

## For More Information

University of Minnesota Extension: <https://extension.umn.edu/find-plants/fruit>.

University of New Hampshire Extension: <https://extension.unh.edu/resource/growing-fruits-low-input-tree-fruits-nh-home-orchards-fact-sheet-0>

Cornell University Extension:

[https://ecommons.cornell.edu/bitstream/handle/1813/67/Cornell Guide to Growing Fruit.pdf;sequence=2](https://ecommons.cornell.edu/bitstream/handle/1813/67/Cornell_Guide_to_Growing_Fruit.pdf;sequence=2)

Michigan State University: [https://www.canr.msu.edu/news/growing\\_fruit\\_trees\\_in\\_the\\_backyard](https://www.canr.msu.edu/news/growing_fruit_trees_in_the_backyard)

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